C. A. S.
EXPEDITION

AUSTRALIA
1962

E. S. ROSS + D. CAVAGNARO
COLLECTORS

AUSTRALIA — WEST AUSTRALIA

STOP 297 - W. AUSTRALIA!
DARLINGTON, 450 ft., IX-2-62
3000 specimens

Darlington is a small residential town near the scarp of the Darling Range about 17 miles east of Perth. The rolling hills of the plateau and the escarpment are largely covered with partially cleared or relatively undisturbed bush, and excellent collecting lots are available among the scattered residents of Darlington itself. Granitic outcrops ~~[illegible]~~ show that the range is basically ancient granite, but on the plateau and on some of the ridges around Darlington the formation is replaced by a top layer of coarse, ~~[illegible]~~ rather orange-brown stones and gravel. The flora varies slightly with these changes of formation. Nowhere is the soil very deep.

Perhaps the best tract of native vegetation is found in the John

Forrest National Park, just across the Great Eastern Highway from Darlington. Here many of West Australia's wildflowers can be seen at their best.

Because the southwest corner of Australia is one of the ~~world's botanical centers largest~~ oldest botanical centers, above the sea and free from drastic climatic changes ~~for possibly~~ longer than most ~~many~~ other areas, the flora of the area is very unique. Many species are found only in the southwest, and some in fact are restricted to the Darling Range. The flora of these hills can be classed as dry sclerophyll forest, an open woodland dominated by Eucalyptus calophylla, the Marri or Red gum, and a stocky species of Sheoak, or Casuarina, with Jarrah. (C. marginata), ~~scattered~~ interfingering sparsely on some slopes, and Wandoo (E. wandoo) growing locally in stream valleys. Large Banksia trees and tall Parrot bush shrubs (DRYANDRA sessilis) grow

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commonly in the gravelly soils; ~~and~~ the palm-like Cycad, Macrozamia, and grass trees or blackboys, the two liliaceous genera Kingia and Xanthorrhoea, are prominent larger members of the understory everywhere. In undisturbed areas the ground cover consists of a great variety of small, leathery-leaved, or thorny xerophytic shrubs, 1 to 4 ft. high ~~through~~ among which grow, in the spring, many beautiful wildflowers. ~~Wild~~. ~~The growth~~ ~~of~~. Members of the families Myrtaceae and Proteaceae and of the genus Acacia are important components ~~of~~ the low understory. ~~A~~ The ~~the~~ growth of herbaceous wildflowers is especially good after the frequent bush fires which strike all areas every few years. No part of the woodland seemed to be long removed from ~~fire~~ extensive burns, but since the shrubs are well adapted for fire they grow up more luxuriantly the next ~~yr~~ spring.

Specimens were collected over a period of 10 days, centering on

September 5 (note that temporary specimen labels bear the date IX-2; IX-5 is a better mean date). The weather during this period was variable, with about as many clear, sunny days as cloudy, rainy days. While the sun warmed things up to about 65°F, the nights cooled off to around 45° with occasional lows of 39°-41°. Many of the understory shrubs and wildflowers are in full bloom at this time of the year, and bees, flies, and beetles were collected on the blossoms. Stone-turning was quite profitable. Night collecting was poor because of cold weather.

STOP 298 — W. AUSTRALIA! KING'S PARK, PERTH, 100 ft., IX-5-62, 200 specimens.

King's Park occupies a long ridge overlooking a bend of the Swan River between Perth and Nedlands. While some of the park is trimmed and planted, most of the ridge maintains the

original flora, dominated by Red Gum (C. calophylla), ~~Casuarina~~ one or two other species of Eucalyptus, and Casuarina. "Blackboys", of the genus Xanthorrhoea, are very common, and among a few grouped caves of grass clumps and woody shrubs spring wildflowers grow abundantly. The soil is largely sandy. One day was spent collecting in the park; the weather was cool and partially cloudy, without rain. Small understory acacias and many wildflowers were in bloom, and the grass was green from winter rains.

STOP 299 - W. AUSTRALIA!
10 MI. E. NORTHAM, 150 METERS,
IX - 14 - 62
700 specimens

This one-night camp was located by one of the few scattered rocky outcrops in the expansive, slightly rolling wheat & sheep country around Northam. A small creek near camp, dry

~~Small~~ Low, much-branched specimens are scattered thinly here and there.

except for a few stranded puddles, had some aquatic fauna. A little wheat field separated camp from the hill.* Eucalyptus randoo is the predominant tree, ~~of the area,~~ though nowhere ~~does it~~ in the area does it reach its full stature. Grass covers the sandy ground in the flatter spaces and around the creek, but on the rocky slopes small everlastings and other short-lived spring wildflowers ~~were~~ are most common. But of all the plants native to the hill the "black boys", of the genus Xanthorrhoea, ~~were~~ are the most notable. These peculiar plants are scattered about abundantly, and some specimens are nearly ten feet high. Acacias averaging 10 ft. grow near the creek.

Black light collecting was poor because of ~~cold~~ low temperature and a nearly full moon. There was frost on the grass the next morning.

Turning stones and fallen limbs was profitable. Many specimens were swept from the creekside grass.

STOP 300 - W. AUSTRALIA:
5 MI. W. KELLERBERRIN,
325 METERS, IX-15-62
700 specimens

Short stop in the gently rolling sheep & wheat country. Some specimens were collected under stones on a small rocky rise beneath a thin ~~[illegible]~~ stand of Eucalyptus wandoo. ~~Bees~~ were taken at the flowers of a small thorny - leaved woody legume growing in the sandy and rocky soil. Sweeping ~~[illegible]~~ the groundcover of native grass along the roadside and in ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~ nearly dry pastures yielded some specimens. Small acacias and other xerophytes, as well as everlasting wildflowers grow here and there between the disturbed areas. The weather was warm, clear, and windy.

STOP 301 - W. AUSTRALIA:
15 MI. W. MERREDIN, 275 METERS,
IX-15-62
800 specimens.

Alice Hill pinpoints this camp, located near ~~the base of the~~

~~small, weathered granite monolith~~
its base. The hill, a short distance from the small settlement of Hines Hill, is a low, heavily eroded, rounded granite outcrop perhaps a quarter of a mile long. Many shrubs grow in the exfoliating and decomposing granite, but the heaviest growth is on the plains around the hill. Camp was located on the S.E. side, in a thin grove of 5-10 ft. acacias, 15 ft. salmon gums, and some Casuarinas (more common and larger on the north side. The ground cover, thin or nearly absent in some places, consisted largely of short grass and everlastings. Blossoming leptospermum and other small bushes were excellent for small insects.

Weather warm, windy; night cold, full moon.

STOP 302 — W. AUSTRALIA:
30 MI. E. MERREDIN, 375 METERS,
IX-16-62
1500 specimens.

Located between Carrabin and Yerbillon, this short midday

stop on a side track ~~to~~ between the road and railroad was excellent for blossom-visiting insects. The dry woodland of small Eucalyptus, acacias, and Cypress trees, with some low bushes scattered between, was very poor for collecting; blossoms were scarce and the packed sandy and gravelly soil was bare and devoid of good rocks. But near the railroad, where an area had been disturbed for the removal of sand and gravel, many small bushes and wild flowers were in flower, and nearly all specimens were swept from these. ~~Though~~ The weather was partially cloudy, warm (70° - 75° F), and very windy.

STOP 303 - W. AUSTRALIA:
14 MI. W. SOUTHERN CROSS,
375 METERS, IX-16-62
300 specimens.

A small dam near the road at Moorine Rock pinpoints this

quick afternoon stop on a warm, windy day. Nearly all specimens were collected on large acacia bushes in full flower; a few beetles, mutilids, and spiders were taken under stones in packed sandy soil.

70°-75°F

Many small Eucalyptus trees were scattered through the area.

STOP 304 - W. AUSTRALIA!
10 MI. E. SOUTHERN CROSS,
425 METERS, IX-16-62
200 specimens.

Vegetation varies markedly every few miles along the Great Eastern Highway, depending upon the soil type and available moisture. Near Yellanding there is a band of treeless scrub consisting of a great variety of xerophytic bushes averaging 3 ft. in height, with scattered pine Grevillea (G. excelsior) bushes projecting to 15 ft. Nearly every bush was in flower, and specimens were swept from the blossoms and foliage.

The packed sandy soil was barren except for a few scattered wild flowers.

Weather - ~~clear~~ partially cloudy, warm, windy. Late afternoon.

STOP 305 - W. AUSTRALIA!
30 MI. E. SOUTHERN CROSS,
350 METERS, IX-16-62
100 specimens.

This ~~was~~ was a one-night camp in a thin Salmon gum woodland near Karalee, with an understory of scattered 3-ft. bushes (acacias, casias, etc.). Packed sandy soil, reddish brown in color, seemed very dry. Some everlastings covered spots of ground; but for the most part the area was bare, without any ground cover. Beneath the trees patches of fallen leaves ~~and~~ branches had accumulated, and grasshoppers were especially thick in these places.

The weather was clear and warm, the night cool. Night collecting was fair until the full moon rose.

Most specimens were collected

about half a mile east on the road, in a woodland of 10- to 15-ft acacias (few Eucalypts) with an understory of rather close-growing Myrtaceous shrubs 3 ft. high, in full blossom. Sweeping these and scattered bush acacias in bloom along the roadside was productive. A few specimens were collected beneath ~~oil~~ rusty oil drums scattered in an old bulldozed area where gravel and sand had been removed.

STOP 306 — W. AUSTRALIA!
54 MI. W. COOLGARDIE, 325 METERS,
IX-17-62
100 specimens.

The weather was warm (75°F), and slightly breezy during this short afternoon stop. Between Coolgardie and Southern Cross there is an undulating area with scattered, rounded, mostly barren granite hills. Salmon gums about 25 ft. high form a thin and sporadic woods with five-ft. acacias and other bushes growing between them.

The hard-packed sandy, gravelly soil supports little ~~a~~ small growth, though patches of everlastings grow here and there. Grasshoppers were common on the hot, exposed ground as well as in green grass around a small pond near the road.

STOP 307 - W. AUSTRALIA!
20 MI. N. BROAD ARROW, 325 METERS,
IX - 17 - 62
200 specimens.

Flat to gently rolling countryside covered with native vegetation but grazed by sheep. Camp was located in a thin, open woodland of gums (Salmon and others) 10 to 20 feet high. Low acacias and grey-leaved bushes 1 to 4 ft. high grow about among the Eucalyptus but are nowhere very dense. The ground is barren, hard-packed red sand, quite dry at this time. Here and there patches of fallen leaves

and twigs had accumulated and some everlastings thrived.

The weather breezy in the afternoon, calm, ~~but~~ clear, and warm in the evening, cooling rapidly later. Night collecting was good until a full moon rose about 9:30 P.M.

STOP 308 - W. AUSTRALIA:
37 MI. S. LEONORA, 350 METERS,
IX-18-62
150 specimens.

Short stop on a ~~fairly~~ clear but windy day at a small dry creek. Sheep farmers have a windmill and watertroughs there. Water is not far below the surface and the growth of acacias and other shrubs is more dense and green than on the surrounding plains. Many Buprestids, flies, and wasps were collected on the blossoms of several 15-ft. acacias, and sweeping smaller shrubs produced a number of Coleoptera

and other small insects. The soil is sandy and gravelly with practically no cover. The surrounding countryside is typical arid mulga, or acacia scrub.

STOP 309 – W. AUSTRALIA!
28 MI. E. LEONORA, 350 METERS,
IX – 18 – 62
100 specimens.

There are several washes between Leonora and Morgans, on the Laverton road, which run full with the occasional heavy rain. Some retain a little water even during short dry spells (see STOP 310 – wash near Morgans). In most of these, however, water is seldom far below the surface, and the acacia scrub is more prosperous. The kangaroos often get water by digging down in the creek-bed sand until a little water collects in the hole. These

moist spots surrounded by many miles of very dry land are quite attractive to wasps, and large numbers of Vespids, Sphecids, and Pompilids were collected here at these kangaroo holes. Flowering shrubs and small grassy banks near the creeks were also good.

This wash is located not far from the old ghost town Murrin Murrin.

STOP 310 - W. AUSTRALIA:
MORGANS, NR. LAVERTON,
350 METERS, IX-19-62
150 specimens

Morgans (Mt. Morgans on some maps) is an old mining town in very dry, flat mulga country. The ghost town and deserted mine is situated at the end of a long, low rocky ridge, the only topography in the area besides Mt. Margaret. The sandy or gravelly soil is bare; acacia bushes up to five

feet high are scattered over the plains and ridge slopes, growing on the average 10 ft. from each other.

The weather was clear and windy, ~~cooling to 55° at night, with~~ calming in the evening and cooling to 55° F.

Camp the first night was located in a dry wash among 15-ft. acacias near the cemetary; the gravel ~~to~~ earth was extremely dry and barren, and the whole place seemed very lifeless. We camped the second night behind a large deserted house on the hill overlooking the mine. A few more insects came to the light here. Most specimens were collected under stones and metal debris around the mine.

Additional specimens were collected around the well at Red Knob, S.W. of Morgana, and around a few small ponds in a creek beyond Red Knob. Some grass grows around this

wash, though sheep grazing is heavy. The ponds were scarcely 12" deep at this time and must dry up during the summer.

STOP 311 - W. AUSTRALIA:
OLDFIELD RIVER, NR. RAVENSTHORPE
30 METERS, IX-23-62
100 specimens.

The highway intersects the Oldfield River about 16 miles from the sea, in a region of gently rolling plains and very low hills. Granite outcrops have been exposed along the stream, and support a good cover of moss and lichen. Even though heavy rain had fallen during two previous days the stream was not flowing, but many large, rather permanent ponds had risen several inches. Aquatic plants grow in most of these, but the pond fauna did not seem to be rich at this time.

Large trees are absent in the area but shrub growth is thick, especially in the low areas near the water. Some Eucalyptus trees reach a height of 15 ft, but most range from 5 to 10 feet. 5-ft. acacias and Myrtaceous bushes are quite common. On the rocky slopes with sandy soil, on both sides of the stream, small acacias, Grevilleas, and many other low shrubs grow. Fire had not burned the area for some time.

The weather was cold, cloudy, and windy, and rain began to fall.

The mileage from Ravensthorpe is 38 miles E.

STOP 312 - W. AUSTRALIA:
15 MI. E. RAVENSTHORPE, 110 METERS,
IX-23-62
200 specimens.

These specimens were collected on Bandalup Creek and Jerdacuttup River, in

gently rolling plains country roughly 30 miles from the coast. On one side of Bardalup Cr., just where the road crosses, there is a small rocky limestone ridge, and specimens were collected under stones there. Four- to six-ft. Eucalyptus and small thorny bushes grow sparsely on the limestone, but elsewhere, especially along the small creek, shrub growth is ~~more~~ thicker. The area had been burned over, ~~and most of the growth~~ and the dead snags protruded above more recent regrowth. There is little cover on the gravelly ground. Sweeping small Eucalyptus and Acacia bushes yielded some specimens, but many were collected on small white-flowered bushes.

Nearly all the Ferdacuttup River specimens were collected ~~by~~ by sweeping ~~round~~, ~~five~~ six-ft. Proteaceous bushes growing among scattered medium-sized Eucalyptus and acacia trees. These ~~sweet-smelling~~

shrubs were covered with sweet-smelling white blossoms. The weather was partially cloudy and breezy, cool though the sun was warm when the clouds cleared momentarily. Heavy rain had fallen off and on during the previous 2 days.

STOP 313 – W. AUSTRALIA!
20 MI. S. BORDEN, 200 METERS,
IX-23-62
150 specimens

This one-night camp was located on the Paper Collar Gully Road, a small gravel track branching from the Ongerup-Albany road just north of the Stirling Range. About a quarter of a mile down this road, among low, rolling hills, the road dips ~~into a low a~~ from the shrub-clad slopes into a low area with a grove of tall Eucalyptus trees shading a thin understory of 5-to 10-ft. acacia trees. The ground cover consists of

grass and wildflowers, green and in full bloom at this time of the year. There is no stream in the depression. Farther down the tiny valley land has been cleared for sheep pasture.

The weather in the morning was cool and cloudy; the night time low was about 40°F.

Rain had fallen recently.

STOP 314 - W. AUSTRALIA! CHESTER PASS, STIRLING RANGE, 200 METERS, IX-24-62

200 specimens.

Sweeping was productive in a woodland of Red gum (E. calophylla) and Yate (E. cornuta) at the Gold Hole, a small pond on the South side of Chester Pass, Ongerup-Albany road. The gradual slopes are rocky and the soil sandy, supporting a scattered growth of large Banksia trees among the gums. ~~Dense~~ A thin ground cover of reeds, grass, and wild flowers thrives in the open woodland;

growth is greener in more shaded areas around the pond, where the trees are better developed. A fire ~~must have~~ had burned the area ~~the season before~~ recently; ~~and~~ the gums were putting out extensive growth all along their branches, and suckers ~~well~~ growth at their bases ~~was~~ ~~provided~~ was good for sweeping. ~~and~~

The weather was windy, partially cloudy, and cool. Rain had fallen recently.

STOP 315 - W. AUSTRALIA!
VALLEY OF THE GIANTS,
150 METERS, IX - 24 - 62
150 specimens.

This reserve for Western Australia's big trees, covering a small forested area in hilly terrain near Walpole, along the south coast, contains one of the finest stands of Karri and Jarrah in the whole of the Karri belt. The trees

KARRI - EUCALYPTUS DIVERSICOLOR
JARRAH - EUCALYPTUS MARGINATA

reach 150 feet in height, and some of the farrah trees are immense in girth. The canopy is not dense, and filtered light permits a thick growth of midstory acacias [redacted] 10 ft. tall, with lacey leaves and delicate branches. The understory consists of sedges, grasses, bracken ferns, and various flowers up to 2 feet deep, forming a thick ground cover. The understory and acacias are so thick that free movement in uncleared areas is not possible. A thick layer of rotting leaves, branches, and logs on the forest floor offers good collecting niches. Peeling the barks of tall Casuarina trees among the acacias was also productive. (pseudoscorpions were taken here).

The weather was cloudy in the afternoon and rain fell at night. There was a brief bit of sun early in the morning. Much rain had fallen recently and the forest was wet, the moss and lichens green.

STOP 316 - W. AUSTRALIA: 25 MI.
N.W. WALPOLE, 100 METERS,
IX - 25 - 62
50 specimens

Short stop in a forest of tall Karri, Marri and Jarrah trees, with medium-sized Casuarina and smaller (6-ft.) acacias in flower forming a rather dense midstory. Ground cover — bracken ferns, sedges, etc.
This grove is not as majestic as the grove in The Valley of the Giants; the canopy is more open, the mid- and understories less luxuriant in growth habit. The forest was dripping wet from a night rain. Specimens were collected mostly under bark, some scattered stones, and in rotting logs. The weather was cool and cloudy.

(Huge log - photo of collecting by it)

STOP 317 - W. AUSTRALIA! 13 MI. W. BRIDGETOWN, 320 METERS, IX-25-62 150 specimens

Stone-turning was most productive at this one-night camp in low hills. The flora is principally dry woodland of Red gums (Marri), Jarrah, and Banksia trees with an understory of scattered blackbays (xanthorrhoea) and Macrozamia cycads and many small acacias and wildflowers growing in rocky laterite soil. The woodland here is very much like that found all along the Darling Range, to the north.

The weather was cloudy and rainy, with a wet, cold night.

STOP 318 - W. AUSTRALIA! ALEXANDRA BRIDGE, 25 METERS, IX-26-62 300 specimens.

Alexandra Bridge, on the banks of the Blackwood River, is an excellent, wooded picnic spot. Many large Eucalyptus and Western Australian

Peppermint (Agonis flexuosa) are the principal trees along the river, and Casuarina trees are also present. Agonis flexuosa is a very characteristic ~~tree~~ part of the scene ~~from~~ along a coastal strip from Cape Leeuwin to ~~Cape~~ north of Cape Naturaliste; the species often grows as a midstory in the Jarrah forests north of Cape Naturaliste, but more frequently it reaches large sizes in ~~the~~ pastures and along ~~the~~ coastal streams.

The grass was lush & green and many wildflowers were in bloom in the woodland understory. Near the stream there is also a large permanent pond with waterlilies and many other aquatic and amphibious plants. Collecting along its margins was good. Sweeping grass and understory plants was productive.

Weather: warm, sunny, slight breeze. Some specimens were collected under bark also.

319 — W. AUSTRALIA: HAMELIN BAY, 2 M., IX-26-62

800 specimens.

Hamelin Bay is a tiny little resort beach along a beautiful stretch of coastline near Karridale. Eucalyptus and Banksia woodland are the chief constituents of the vegetation in this area, but there is a large variety of plants — mostly windblown shrubs — growing in the upper margins of the sand dunes. Sweeping these shrubs and the grass in woodland shade was especially good. Some distance behind the sand dune zone there is a large permanent pond with grassy and reedy banks, surrounded by woodland. Collecting here was very good. Warm day, windy in exposed spots.

STOP 320 - W. AUSTRALIA: CAPE NATURALISTE, 5 M IX-27-62

800 specimens.

Cape Naturaliste is one of the most scenic pieces of coastline

in the southwest. The Cape is a large promontory of land, with high, steep cliffs in some places, which projects quite a distance into the sea. In protected areas there are some fine woods of Eucalyptus, Peppermint (Agonis flexuosa), Banksias, etc, bordering open meadows. Cala lilies have spread as a weed in these areas. Farther out on the point, on the sheltered side, there are a couple of excellent beaches, one of which, Eagle Bay, was our camp site. There are some Eucalyptus groves and Casuarinas behind the beach, but the hills rising behind them lack a cover of trees. Instead there is a unique low scrub containing many of southwestern Australia's peculiar genera. Quite a number of wildflowers were in bloom. Sweeping the green grass under the trees behind the sand was good, and many beetles were collected under the Pelargonium plants hanging over sand dunes.

Bunker Bay is also a beautiful spot farther out on the point. The cliffs here are high and the trees windblown. One of the best collecting spots, however, extends from Bunker Bay all the way out to the windy point near the light house. On the slopes of the Cape in this area the peculiar low scrub growth seems to be very rich and contains a huge variety of plants mostly under 3 feet high. The variety of small acacias and myrtaceous plants is remarkable. Most of these were in flower, and when the sun came out the insect life around these blossoms was very good.

The weather was partially cloudy, clearing now and then. Strong winds blew in open areas, but the protected spots were warm and still most of the time.

Red gums were the commonest of the E. species. Blackbutts were also abundant. Granite and limestone were the predominant rock types.

STOP 321 - W. AUSTRALIA!

7 MI. N.E. BUSSELTON

50 M., IX-28-62

100 specimens.

We stopped briefly in a fine sample of Tuart forest near the coast. This species of Eucalyptus has a small, narrow range along this part of the west coast and is apparently restricted to areas with a limestone substrate at some depth. The trees are immense in girth and are very tall. There is a grid-forest of Agonis flexuosa 20 ft. high and an understory of various plants up to 6 ft, including a tall legume peculiar to the area. Grass, "wild mysteria", and many small flowers & herbs formed a thick cover beneath the trees. Sweeping was most productive (especially for mosquitos!). Sunny day, 65° F.

STOP 322 - W. AUSTRALIA:

6 MI. N. MANDURAH, 30 M.,
IX - 28 - 62

15 specimens.

Quick stop in rolling coastal limestone country which had been burned over. Grass and wild flowers and low 1-foot scrub ~~that~~ was replacing the old fire scars and the fields looked lush & green. The limestone here is very close to the surface and projects jiggedly among the low plants, forming in places a rough pot-holed surface hard to walk on. Warm, sunny, breezy day

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STOP 323 - W. AUSTRALIA:

DARLINGTON, 450 ft., IX-30-62

300 specimens.

(See STOP 297). Collected again for a couple of days in the same unique area which gave us such a good introduction to the amazing flora and fauna of the southwest.

The season was obviously more advanced; whereas many new wild-flowers were out, a number of blossoming shrubs which had been such good collecting plants had since finished flowering.
The weather was generally cool; sunny periods alternated with cloudy spells, and heavy rain fell part of the time.

STOP 324 - W. AUSTRALIA!
FREMANTLE, 40 M., X-1-62
15 specimens.
Some specimens were collected on a grass-covered limestone hill near the military installations south of town, not far from the train tracks and beach.
Sweeping and beating the flowering
6-ft Parrot Bushes (Dryandra sessilis), scattered several feet apart on the hill, produced most of the insects, and a few more were taken from low scrub acacias 1 to 4 ft.
Warm day.

STOP 325 - W. AUSTRALIA: KING'S PARK, PERTH 100 ft.
X-1-62 75 specimens
(See STOP 298).

Collected one afternoon in this natural area on a ridge overlooking Perth. The grass was higher and more flowers were in bloom than 2 weeks before. Collecting was not too good. Fairly sunny afternoon. Most specimens were collected by sweeping the woodland understory.

STOP 326 - W. AUSTRALIA:
17 MI. N. PAYNE'S FIND 400 M.
X-3-62 400 specimens.

From Perth we took the inland route north. After about 280 miles we camped beyond Paynes' Find (nothing more than one building and a gas pump at a road junction). We set up camp by a large exfoliating granite outcrop in otherwise flat country. Large bushes 5 to 10 ft. high (acacias, etc.) were scattered here and there, with only

thin grass on red earth between them. There are no trees in this area. The weather was extremely cold and rainy with strong winds. By night it cleared and was sunny the next morning. Many grasshoppers were collected and a variety of insects were beaten from the bushes.

STOP 327 – W. AUSTRALIA:

MT. MAGNET, 410 M.,

X-4-62 100 spec.

Mt. Magnet is an old gold mining town way out in flat Mulga country — a long way from anywhere! The vegetation consists chiefly of small scrubby acacias scattered thinly over the countryside. Many areas lack even these and have only a very thin cover of grass. These areas, however, exhibit beautiful displays of "everlastings" in a good year. This year doubtlessly shows signs of over-grazing.

Some specimens were collected

in the vicinity of LENNONVILLE, an old deserted mining town which once was a thriving place on the plate reef Mt. Magnet. Now there are only a few prospectors working the area from Mt. Magnet.

Camp was located some distance off the road by a huge outcrop of heavily eroded granite 1 mi. N. Mt. Magnet, in the same type of vegetation (or lack of it!). Some legumes 4 to 6 ft. high grow among the granite boulders, and other small xerophytic bushes are scattered here & there. Cold, windy, clear night following a cloudy afternoon.

STOP 328 - W. AUSTRALIA:
45 MI. N.W. CUE, 440 M,
X-5-62
150 specimens.

In the vicinity of Cue we branched off the main road north and took some sheep station roads out toward Mileura and Milly Milly Stations. These specimens were

collected on blossoming acacias, larger bushes in the region of a dry wash, surrounded by the usual flat mulga country. Sunny, windy afternoon.

STOP 329 - W. AUSTRALIA:

MILEURA, 350 M, X-5-62

Mileura is a big sheep ranch way out in the acacia flatland. This camp was situated on a big dry wash not far from the ranch homestead. At least 2 species of white-barked Eucalyptus trees about 30 ft tall and a dense grove of big paper-barked tea-trees (Melaleuca sp) formed the principal vegetation in wash and the surrounding flat countryside ~~had the same~~ low scattered acacia and Cassia scrub up to 5 ft. There was one small pool remaining in the wash, and many small fish were trapped in it. Crickets were quite active at dusk, especially a small pale species which sings in a large resonance chamber just below the surface, with his antennae protruding from a tiny hole to the

surface. The resultant sound is surprisingly loud for so small a cricket.
Ground very dry, weather warm.

STOP 330 – W. AUSTRALIA: 18 MI. N.W. MILEURA, 310 M., X-6-62
100 specimens.

On a station road between Mileura and Milly Milly sheep stations there is a wide wash with a huge waterhole by the road. Eucalyptus trees grow here and there along the wash, and acacia & Cassia bushes grow here & there among them, forming the principle vegetation on beyond the wash. At this time there were some large white-flowering shrubs up to 10 ft. high in blossom, and wasp collecting was very good. Turning stones near the edge of the water produced some beetles, etc. Warm, sunny, slightly breezy – 70° F.

Very dry area except for the pool.

STOP 331 - W. AUSTRALIA:

MILLY MILLY, 300 M, X-6-62
300 specimens.

Camp was situated next to a dry wash, under a big white-barked leguminous tree of some sort. The station homestead was less than a quarter of a mile away. Many gum trees grow along the wash, but the vegetation otherwise consists mostly of small acacia bushes on barren sandy soil. After a good rain, or the flooding of the nearby Murchison R., thick grass grows up among the acacias, but at this time of year the grass is thin, brown, dry, and overgrazed. Much tin, boards, bricks, and other debris from tumbled buildings provided good collecting for beetles, etc.

Other specimens included in this label were collected along a huge Murchison River waterhole, a permanent pool with ducks and spoonbills and plenty of fish. We had good wasp collecting along salty & sandy banks

where reeds and some flowers were growing. There was some grazed grass cover here and there on the ground. Hot and sunny.

STOP 332 - W. AUSTRALIA:
8 MI. S.E. BELELE, 400 M,
X-7-62
50 specimens.

Swinging back toward the main road, we stopped near ~~the~~ Belele Station homestead, still 29 mi. N.W. MEEKATHARRA. Here there is a wide flat wash with scattered white-barked Eucalyptus trees and 2- to 6-ft. acacias. Behind the wash there is a prominent red hill, very rocky, almost devoid of vegetation. A new species of Eubiopterus was collected in the rock cracks. Camp — at the edge of the wash. Area extremely dry, no ground cover. Warm, calm, clear evening, becoming windy later and next morning. 60°F. No sign of water.

STOP 333 – W. AUSTRALIA: 86 MI.
N.E. MEEKATHARRA, 525 M.,
X-8-62
30 specimens.

Short stop on a steep red rocky hill along the main road, near Poolgenna homestead and the South branch of the Gascoyne River. The hill has no vegetation except for a few scattered acacia bushes. From the top of the hill one gets a splendid view of the vast flat plain, with the pattern of scattered Eucalyptus trees near the dry river. Collecting was very poor due to dry conditions. Sunny, hot, slight breeze. 80°F

STOP 334 – W. AUSTRALIA: 82 MI. S.W.
MUNDIWINDI, 600 M., X-8-62
200 spec.

Camp – near a dry creek lined with river gums, backed by a bare, rocky ridge. Otherwise the country is flat. The ground is mostly red gravel, hard packed sandy soil, with low, well-spaced

bushes and some larger bushes up to 10 ft high. Spinifex grass in patches. No sign of water.
Warm, breezy afternoon — Calm, clear evening. Good light collecting. 60°F. Windy, clear morning.
(this camp was approached by driving off the road and heading across country, across a deep dip).

STOP 335 - W. AUSTRALIA!
WITTENOOM GORGE -
475 M., X-9-62 300 spec.

Wittenoom Gorge and the stratified ranges around it constitute one of the most scenic areas in the north of this state. The gorge itself winds around among steep slopes of sedimentary rock from which asbestos is mined. The tiny town itself is mainly a result of the mine. Camp was situated off the road part way up the canyon, where there is a good fairly permanent water hole

adjacent to steep cliffs. River gums are scattered here and there. The rocky river bed lay on one side of camp, a higher spinifex-covered rocky area on the other. A variety of small sand-loving plants grow in the vicinity of the stream bed. The rocky slopes, too, especially where there are little ledges, support spinifex clumps. The whole area is very dry at this season and the grass is brown. Warm, still, clear night, 3/4 moon; excellent light collecting.

A variety of grasshoppers was collected the next day, especially among the spinifex clumps on barren sandy ground in the full heat of the afternoon sun.

STOP 336 - W. AUSTRALIA:
DALES GORGE, 625 M., X-10-62
50 specimens.

In the Hamersley Range, not far from Witteroom Gorge, there are two other spectacular

canyons cut in the beautiful strata of the hills. The Range, beyond the steep eastern escarpment, consists of a series of rolling grass-covered hills with a peculiar scattering of small Eucalyptus trees and "graves" of termite mounds. Dalla Gorge is a deep canyon with vertical sides, waterfalls, deep pools, and a rather tropical growth of plants at the bottom along the stream. Eucalyptus, but mostly Melaleuca, or tea-trees, grow abundantly along the edge of the narrow stream. Aquatic collecting was fair; Odonata was best represented at this time. The weather was warm and sunny. Thick clumps of reeds & sedges border the deep pools. White Cypress-pines grow on the cliffs along the trail to the bottom of the gorge. There are also a few fig trees.

STOP 337- W. AUSTRALIA:

YAMPIRE GORGE / NR. WITTENOOM
625 M X-10-62
250 specimens.

The little dirt road to Dales' Gorge passes right through Yampire, a canyon of smaller dimensions than Dales' Gorge. Melaleuca trees and gums of considerable size form shady groves in the gravelly creek bed. Camp was situated right in the canyon near a shallow pool of algae-covered water which proved to be excellent for aquatic collecting. On both sides of camp the stratified walls rose steeply 30 to 50 ft before levelling off into the rolling grasslands above. Aside from the pool the area was fairly dry. Black light collecting was poor, partly because of a breeze. Warm and clear - 65°-75°F.

STOP 338 – W. AUSTRALIA:
de GREY, E. PORT HEDLAND
10 M., X-11-62
50 spec.

Rather flat, open country, extremely dry this time of year. Camp on an old flood plain near the wide, sandy bed of the river, presently dry. Eucalyptus, Melaleuca trees abundant, plus 3 leguminous species, one of which belongs to the genus Bauhinia. Cassia bushes and peculiar small Ficus bushes were also common. Dry grass covered the ground. Trees usually at least 50 yards apart on open plain, thicker along stream. Nearest pool remaining in the streambed was about 1/4 mile away. Clear, warm evening; nearly full moon. The de Grey homestead was located less than a mile from camp, farther down the de Grey R. The effects of overgrazing were obvious, at least during this dry season.

STOP 339 - W. AUSTRALIA!

THANGOO, NR. BROOME

10 M., X-12-62

200 specimens.

Camped somewhere along the main road near Thangoo station. Flat countryside, considerably more wooded than the area around the de Grey River. Here there is a special floral association of scattered trees (Eucalyptus, brown barked Bauhinia, etc.) and tall bushes up to 15 ft. high or so, most of which are acacias or other pod-bearers. The ground cover is grass, dry at this time. Dry, sandy, red soil.

Camped by an old abandoned well with a broken windmill and a dry tank. Good night in spite of a nearly full moon. Warm, still, and clear.

STOP 340 - W. AUSTRALIA!

LANGI CROSSING, 10 M., X-13-62

1500 specimens

Two nights were spent at this crossing of the wide Fitzroy River. The countryside is very flat and supports bunches grass an open woodland of Eucalyptus and Bauhinia trees. Baobab or bottle trees are not uncommon in this area. The first night we camped in the savanna woodland about 1/8 mile from the river. A full moon rose just at sunset, but some insects came to the black light. The weather was warm and calm. The next day was sunny and extremely hot. The second night we camped in the flood plain of the river, surrounded by big paper-barked tea-trees, Eucalyptus trees, etc. Black light — placed on a dune of sand overlooking the wide river, about 20 feet away. There were many large brackish pools in the sandy river (which flows only a short time during the year; tides come way up from the mouth). The light drew from one of these and from the surrounding

stream side growth. Many beetles, etc., came to the light from the damp silty river banks.

The temperature was 85° F the first evening and stayed up around 90° F the second. On the second night there was about half an hour of darkness before the moon rose.

STOP 341 - W. AUSTRALIA: DERBY

5 M., X-16-62 150 specimens

Derby is a coastal town in flat country covered by a very open savanna woodland, with a variety of Eucalyptus, Acacia, Bauhinia, baobabs, etc. Some specimens were collected in the vicinity of Derby's major landmark, the jail tree, a bottle tree which has been hollowed out inside. A few drops of rain had fallen the day before, but not enough to cover the ground. The day was very hot, sunny, and still — 100° F in shade. The country looked dry & parched. Many of the trees were bare of leaves.

The black light was set up in a garden in the little town, in a recently built up area of a few houses. There was some original vegetation nearby. Warm, clear evening.

STOP 342 - W. AUSTRALIA:
KIMBERLEY DOWNS, 40 M.
X-16-62 100 specimens.

From Derby we took a series of "outback" tracks from cattle station to cattle station, passing through parts of Kimberley Downs, Fairfield station, Leopold Station, and rejoined the main route before Fitzroy Crossing. There we were able to get some idea of the more rugged Kimberley countryside, though we did not get into the Leopold Range, more in the heart of this hilly northeastern part of the state. Kimberley Downs homestead is nestled in a little valley among rolling hills sparsely wooded with Eucalyptus. Grass forms the principle groundcover.

Baobab trees are not uncommon.

Most of these specimens were collected around flowers in the garden at the homestead on a partly cloudy but hot afternoon. No rain had fallen near the homestead recently, though local thunder showers had occurred on other parts of the property in the 2 previous days.

STOP 343 - W. AUSTRALIA:
WINJANA GORGE, 100 M.,
X-17-62 1500 specimens.

Of all the collecting spots we had in northern Australia, this was perhaps one of the most beautiful. A long but rather narrow range of stark gray, heavily-eroded cliffs rises abruptly out of the flat plains and savanna woodland. The limestone & marble-like cliffs have been eroded into jagged crags, and a good sized stream has cut a channel about 200-300 yards wide through the hills. At this time of the year the stream is dry

except for numerous ponds of varying depths in the sandy flat stream bed. Here and there big boulders have fallen from the cliffs and have became imbedded in the sandy bottom. The stream is lined mostly with paper barked tea-trees; the eucalyptus trees seem to grow best out on the flats beyond the entrance of the canyon. Fig trees add a tropical flavor, and a variety of other evergreen trees create a lush effect.

Camp was situated at the foot of the cliffs at the entrance of the gorge, with savanna woodland stretching away on one side and the high banks of the stream on the other. Collecting was best in the canyon in the morning and evening; the afternoon was so hot that even most insects were quiet. Some of the ponds, even shallow ones which became extremely hot by late afternoon, were good for aquatics. Further, fish, and fresh-water crocodiles

are also prominent members of the community. An immense flock of flying foxes lives in a group of trees in the canyon.

Winjana Gorge is located roughly E. of Kimberley Downs, in the Napier Range.
90° evening, 80° dawn. Full moon late.

STOP 344 - W. AUSTRALIA!
TUNNEL CR., NR. FAIRFIELD,
150 M., X-17-62

Not far from the junction to Fairfield homestead there is a marble & limestone hill, longer than wide, much like the Napier Range through which Winjana Gorge has been cut (ST. 343), which rises abruptly out of rather flat plains covered with a very open mixed savanna woodland. The jagged, eroded top of the hill supports spinifex, a few low trees and baobabs, peculiar xerophytic milkweeds, etc.

The most peculiar feature of this range is the Creek which runs in one side and out the other,

passing through a remarkable big cave, with clear, cool pools the year around. About in the center of the range the roof of the cave has fallen in, leaving a steep passage up to the top of the hill. There is a large light area here, and this protected spot, with fig roots hanging down from the cliffs, has become a very popular resting place for wasps of many kinds, partly due to the mud source at the edge of quiet pools.

We camped at the entrance, by the dry stream which must flow swiftly through the hill during the rainy season. The stream is lined with a mixture of deciduous and evergreen trees. Bauhinias and other pod-bearing trees are common in the savanna.

Mostly clear, occasional clouds. Rain had fallen 2 or 3 days earlier; area was mostly dry in spite of it. Good night collecting until nearly full moon

rose. Pools in the cave mouth were the nearest water from which to draw aquatics to the light, and these were quite out of sight.

Camped on E. side of the range, on Fairfield station land, about 20 miles (S.E.) from the homestead. There is another road leading to the west side of the cave also, but we hiked there instead. 80° F dawn.

STOP 345 - W. AUSTRALIA!
15 MI. W. LOUISA DOWNS,
250 M., X-18-62
800 specimens.

Camped in open, flat savanna woodland; grass cover thin, bare sandy soil hard-packed and dry. Bauhinias and Eucalyptus common. A small creek (branch of Christmas Creek) was lined with a heavier grove of Eucalyptus. No water. A large swarm of big locusts made black light collecting difficult. Moon rose quite late. Clear evening, 90°F,

Cooling to 15° by morning.

STOP 346 – W. AUSTRALIA:
PALMS MILL, N. HALLS CK.
375 M., X-19-62
100 specimens.
Gently rolling countryside along a route from Fitzroy Downs, Margaret R. Station, Lamboo, Halls Creek, Rose's Bore, Turkey Nest Tank, on toward Wyndham. Palms Mill — just that, a windmill and a tank of water — is situated in nearly flat to rolling country not far from low rocky hills. Trees are very widely spaced, the grass is overgrazed. There is a tiny creek with a few little puddles near the tank, bordered by a few cheweed-down green clumps of tough ~~gr~~ grass. Hot, sunny day. Most specimens were taken in or around the water and in cow dung.

STOP 347 - W. AUSTRALIA:

15 MI. N. BOW R., 250 M.,
X-19-62 50 specimens.

Very dry area about 100 miles from Wyndham, 131 from Halls Ck. Camped in flat spot near a dry creek; hilly area nearby. Most grass grazed and trampled on by cattle. Packed sandy soil. Open woodland. Windy night, 85°F.
Most specimens from black light.

STOP 348 - W. AUSTRALIA:

40 MI. S.E. WYNDHAM
50 M., X-20-62
300 specimens.

Fairly flat country, open woodland of trees 20-40 ft. high; variety of Eucalyptus species. 90°F. Bees were collected in swarms around E. trees in full blossom. Dry grass forms thick ground cover. Rain had fallen a couple of days previously, but the ground was still dry.

STOP 349 - W. AUSTRALIA:

WYNDHAM, 5 M., X-20-62

150 specimens.

Wyndham is a little town between low hills and expansive tidal mudflats bordered by mangroves. Some specimens were collected in the heat of afternoon, at the new town site. Rocky ground, thin woods of 10 - 20 ft. trees on and at the foot of low rocky hill slopes, which taper off to flat grass areas with small tea-trees not far from the mud flats. Baobabs here & there.

Camp was situated a few miles beyond the new town site, on a flat area of red, sandy, barren soil with scattered clumps of 2-ft. grass, partially burned off. Well spaced Eucalyptus and Bauhinia trees were the principal savanna woodland types. Most of these specimens were small. 85°F evening very windy at first, calming

dawn by 9 A.M. Collecting was poor at the lights, but many beetles were collected out on tree trunks by flashlight. Cetonid cocoons were taken in a hollow beneath the base of an E. tree. Overcast morning, 80° F.

STOP 350 - W. AUSTRALIA:
GOOSE HILL CK., S.E. WYNDHAM
10 M., X-21-62 75 specimens.

Quick stop on a hot sunny day, in a bottle tree grove near a small rocky knoll. Rain had fallen recently and the ground was still moist. Typical savanna woodland of small trees.

NORTHERN TERRITORY

STOP 351 - N.T.: 27 MI. E.
NEWRY, 50 M. X-21-62
200 specimens.

Valley between rocky hills, mesas, and cliffs. Open woodland, Eucalyptus

trees 15 to 25 ft. tall with ground cover beneath of grass 2 to 4 ft. deep. Very dry. A cave could be seen on hill cliffs above.

STOP 352 - N.T.: VICTORIA R. CROSSING, 30 M.
X-22-1962 150 spec.

Specimens collected from Eucalyptus bark flakes and dry grassy banks of the river near large ponds. Small beetles - sweeping small bushes. Extremely hot day - 100° F.

STOP 353 - N.T.: KATHERINE R., 5 MI. S.W. KATHERINE, 75 M.
X-22-1962 350 spec.

Camp on flats above the river in an open woodland of Eucalyptus trees 20 to 4 ft. tall. Very dry grass and large milkweeds growing on dry, sandy soil. Creek bordered by a variety

of trees forming with Pandanus "palms" a lush tropical green band along deep water. Aquatics were taken in shallows with algae and plants. Warm, clear night, poor collecting. Some specimens were taken under bark flakes and along the river bank.

STOP 354 – DARWIN, N.T.
5 M. X-24-1962 200 spec.

Most specimens were taken in camp near a trailer court in the outskirts of town, surrounded by undisturbed evergreen woodland with an understory of cycads, small shrubs and seedlings 3 ft. high. Some grass, though not predominating. Variety of trees. Partially cloudy day, cloudy evening. 80°F. Soil fairly dry.

Other insects were taken on a hot breezy afternoon along the cliffs above

Fameroo Beach – a variety of dense evergreen figs and other trees, practically no Eucalyptus trees. 90° F.

STOP 355 – N.T.: STUART HWY., COOMALIE CK., 50M.
X-24-1962 800 spec.
(17 MI. N. ADELAIDE R., nr. BACHELOR JCN.)

Flat to rolling countryside, open evergreen woodland, largely Eucalyptus trees. Grass and small bushes on ground. Camp between creek 20 ft. to one side and a rocky limestone hill with cycads 15 ft. tall on the other. Large bamboos, pandanus, and figs along permanent deep-pool creek. Tea trees here & there. Rain had fallen recently, and again this afternoon, with partially cloudy 80° evening following. Hot the next morning. Black light collecting was good for small insects – many mayflies and

grata. Variety of dragonflies. Eucalyptus trees 20 to 30 ft. tall, Pandanus 10 to 15 ft.

Some dragon flies collected from boggy ponds, probably permanent, in broad depression between wooded hills. Many large trees partially shading ponds. Reeds in water, grass elsewhere. Cattle grazing — near Adelaide River. (specimens included in stop 355).

STOP 356 - N.T.: EDITH FALLS, NR. KATHERINE, 110 M. X-25-1962 1000 specimens.

Camp 100 yards from large, deep permanent pond bordered by tall tea trees and backed on 2 sides by high vertical cliffs. Sandy soil, some grass in deciduous woods of small 10-20 ft. trees. Patches of dry leaves, dung from cattle. Block light-dominated by small insects. Partially cloudy, 80°F, calm. Rain later at night. Some rain had fallen recently -

ground was moist 3-5" deep. Alcohol collecting under stones, on damp rocky hill above falls along trails. Peculiar open woodland of deciduous and nearly deciduous gums and other trees. Dry grass 3 ft. deep.

STOP 357 - N.T.: 10 MI. S. DUNMARRA, 200M. X-26-62 900 specimens.

Flat country, about 7 MI. N. of PMG MEMORIAL on Stuart Highway. Camp just off road in a fairly thick woodland of 10-15 ft. acacias - dry-land type. Ground cover of thin grass and dry flowers 1 ft. deep - not thickly covering the ground. Red, sandy soil. DRY - fairly good night collecting, warm, fairly calm evening.

STOP 358 - N.T.: 23 MI. N.
RENNER SPRINGS, 200 M.
X-27-1962 200 spec.

Open grassy woodland, scattered Eucalyptus trees and some acacias. Warm, dry day, slightly breezy. Specimens swept from Eucalyptus blossoms. Flat country, some rain recently.

STOP 359 - N.T.: 7 MI. S.
BANKA BANKA, 210 M.
X-27-1962 50 spec.

Flat red-sand area with 10-15 ft. scattered acacias. Collecting under old oil drums and scattered debris. Very hot and sunny, but heavy rains had fallen recently; ground moist beneath debris. Ground mostly bare, some grass here & there.

STOP 360 - N.T.: DEVILS MARBLES, 350 M. X-27-62
4000 specimens.

Gently rolling countryside with scattered heaps of immense granite boulders exfoliating to form surrounding area of granite sand. Plains covered with scattered clumps of spinifex and other grasses and dried herbs - a sparse cover. Occasional Eucalyptus trees and large fig trees among rocks, some 4-ft acacia shrubs here & there. Heavy rain recently, ground dry on surface. Sunny afternoon - sweeping Eucalyptus blossoms. Warm 80° evening, partially cloudy. Excellent variety of insects at black light. Calm, no moon. Many grasshoppers taken, even at black light. Neuropterids attracted to light from chambers beneath the "marbles."

STOP 361 - N.T.: 14 MI. N.
BARROW CK., 350 M.
X - 28 - 1962 800 spec.

Low acacias and Eucalyptus up to 10 ft. Spinifex grass and low bushes, other dry grasses and dead wild flowers. Partially cloudy 85° morning, slight breeze. Heavy rain had fallen recently. Ground moist several inches down but dry on surface. Variety of bees, green ones and red & yellow species, were swept from Eucalyptus blossoms.

STOP 362 - N.T.: 7 MI. S.
TI-TREE WELL, 500 M.
X - 28 - 1962 300 spec.

Gently rolling countryside, this a flat area with a well, a tank, and an overflow forming puddles surrounded by short grazed grass. Surrounding bushes about 10 ft. apart, often

growing in clumps. Some 20 ft. acacias near the bore. A small fenced-off paddock protected from cattle had a good cover of grass, everlastings, and small shrubs up to 3 ft. deep. Sweeping herbage and acacia blossoms was productive. Heavy rains recently.

STOP 363 - N.T.: 11 MI. N. ALICE SPRINGS, 625 M.
X-28-62 1500 spec.
Camp - 75° evening, clear, slight breeze - cooling to 65° by morning. Undulating valley of the Macdonnell Range - Rocky knolls nearby, large rocky hills behind camp. Light located on sandy flats by a sandy wash without trees. Many 6-10 ft. tea bushes in full flower - sweeping these was productive. 15 to 30-ft Eucalyptus and Proteaceous

white-flowering trees were scattered widely in the valley, none immediate to camp. Heavy rain recently. Grass and wash-side herbs were green and some flowers were out. Moist spots and puddles scattered about. Cool snap-rather exceptional rain for the season.

STOP 364 - ALICE SPRINGS, N.T.
600 M. X-29-1962 1500 ppe.

90°F, sunny, clear, with slight breezes. Town located in a valley surrounded by rocky hills and ridges of the Macdonnell Range. Most specimens were collected along TODD ~~Sand~~ River under river-gum bark and stones in the town itself, and ~~towards~~ along sandy river banks just through the gap beyond town.

Heavy rain recently, some puddles of water and wet sand in the river bed, damp

sandy soil. In the gap: acacia and Proteaceous pine-like trees, grass and herbs, river-side mallows, most all plants gone to seed. Grass grazed but slightly green from rain. Rather cool evap.

STOP 365 - N.T.: 11 MI. N.E. YAMBAH, NEAR ALICE SPRINGS, 625 M. X-29-62 1000 eps.

Camp in valley, low rocky hills with scattered bushes not far away. Higher range to the S.E. Sandy soil, supporting low (grazed) grass and small scrubby bushes and herbs 1-3 ft. high covering soil thinly. Scattered tall accacias to 15 ft. and Proteaceous pine-like corky-barked trees with yellow flowers scattered widely. Heavy rain recently. 80° evening, clear, slight breeze.

Washes still wet with some puddles. Very windy late at night and morning. Eucalyptus scarce in this zone except along substantial creeks. Good night collecting.

STOP 366 - N.T.: MACDONALD DOWNS, 400 M. X-30-62
1000 specimens.

Gently rolling country. Homestead situated on a flat between a low, rocky barren ridge and a wide, sandy river lined with large gums. Good grass on range (a good year!) Some rain recently - sand moist below surface, water still standing in spots along river course. Grass growing on river banks among low herbs on packed, sandy soil. Camp in small grove of ironbark and other Eucalypts 15 - 30 ft. tall spread 5 to 20 ft. apart. Sweeping gum

flowers after sunrise was good, and sweeping herbage along river banks was productive. Black light collecting was also profitable. Many large pale scarabs and spiny scarabs came to light. Warm, partially cloudy evening, some clouds in the morning. 80° evening, cooling later. Warm and sunny shortly after sunrise.

STOP 367 - N.T.: OOORATIPPRA, 275 M., X-31-1962
1000 spec.

Generally flat plain - grassland with scattered acacias and small trees. Homestead situated on Sandover River lined with large gums - dry most of the year. This an especially good year - pasture good, nearly an inch of rain fell several days previously, mostly dried up again, leaving a

few small pools in the stream. Camp about half a mile from the homestead, across the river overlooking the river banks. Large gums nearby, flat plains behind. Good black light collecting — water beetles. Strange wind with approaching clouds at dusk, calming soon after. Sandy, packed tan soil.

STOP 368 - N.T.! NEAR AUSTRAL DOWNS, 160 M.
XI-1-1962 800 spec.

Flat or nearly flat plains, treeless except for scattered black-barked eucalyptus trees along streams. Grassland on peculiar gray, deeply cracked soil on a limestone formation. Camp not far from the Georgina River, upstream from the crossing. No water at this point - just a dry river bed. Black light — many pompilids

coming just at dusk. 80°F.
Good collecting for a few
hours, followed by strong
winds later at night.

QUEENSLAND -

STOP 369 - QUEENSLAND!
GREGORY DOWNS, 75 M.,
XI-2-1962 300 spec.
Flat or nearly flat
plains, grassland with
occasional very sparse patches
of Eucalyptus trees.
Sweeping Eucalyptus blossoms
of 15-ft trees was excellent
(see E.S. Ross photos of the
blossoms) — these trees
just S. of the hotel (home-
stead across the river).
Thin woods, grazed
grass. Camp 150 yards
from permanent clear-flowing
Gregory River, on banks
with 2 or 3 wooded washes
and eroded gullies between
camp and the river. Stream
in a channel with 10-ft.

sloping banks — dense Pandanus clumps, tall palms, and very large tea trees bordering and growing in the stream. Heavily grazed banks in woodland of Eucalyptus trees. Plains with very thin woods of Eucalyptus and Bauhinia trees. Black light: 88°F, storm approaching in the distance, windy. Very poor soil — light gray, silty, dusty, partially cracked.

STOP 370 - QUEENSLAND:
NEAR BROOKDALE, 10 M.
X 1-2-1962 300 spec.

Camp 20 ft. from a permanent, deep creek 10 ft. wide — the Gregory River, just north of Brookdale homestead — on a bank 6 ft. above the water, sloping and grazed, trampled by cattle. Water was flowing slightly, but muddy rather

stagnant. 20-30 ft. paper bark trees and tall palms, some black-barked Eucalyptus along the banks. Mesquite scattered about (introduced for cattle browse). Surrounding country: Coastal plain, grazed grassland with scattered patches of sparse woods, Eucalyptus and Bauhinia 10-20 ft. high here and there. Soil - light gray, silty, tending to crack. Dusty, dry area this season. Plains treeless in many places.

Arrived in camp at 4 A.M. Put out black light and had good collecting for about ½ hour until a wind came up. 80°F. A storm threatened, with an approaching cloud bank. Nothing developed.

Morning partially cloudy and breezy.

STOP 371 - QUEENSLAND:
14 MI. S.E. NORMANTON,
40 M., XI-3-1962
600 specimens.

Camp 30 ft. from a large pond near permanent water of the Norman River, on the east side of the crossing. Open, savannah woodland. Eucalyptus trees and a variety of acacias and broad-leaved tea trees (dry-loving, small), well spaced through country very dry this season. Sweeping creeping green grass (much like Bermuda grass) along damp, cattle-trampled pond edge was good for damsel flies and small diptera. Black light poor - cloudy night with slight breeze.

Not many aquatics. Very bad flies next morning.

STOP 372 - QUEENSLAND:
13 MI. W. GEORGETOWN,
260 M. XI-4-1962
150 specimens.

Rolling, flat countryside - Ruined, abandoned mine site with a large, man-made pond and introduced trees growing here and there. Open, bare area surrounded by Eucalyptus savannah. Hot, sunny day, few clouds. Heavy rain recently; sandy soil, moist. Some bees and flies from blossoming tree (introduced?).

STOP 373 - QUEENSLAND:
24 MI. S.E. EINASLEIGH,
500 M. XI-4-1962
800 specimens.

Broad, flat valley between low hills - entire area savannah woodland with Eucalyptus and a few acacias and a number of evergreen and deciduous tree species 20-30 ft. tall - grass the

only understory. Heavy rain recently — a few puddles remaining on sandy soil. Branches and logs scattered about. Black light: many aquatics, swarms of gnats and ants after rain. Excellent ant and termite collecting in damp soil. Partly cloudy, 80° F. Dewy, cool night with 70° low. Clear, sunny morning.

STOP 374 — QUEENSLAND:
LYND, 500 M., XI-5-62
50 specimens.

Savannah woodland of 20-50 ft. Eucalyptus trees, near a dry stream. Rain recently — ground still moist. Some specimens from a small rocky grass-covered outcrop, under stones and logs. Grass 1-3 ft. deep, dry and brown. Open foliage, little shade.

Red - flowering legumes.
Grasshoppers and neuropterans most common.

STOP 375 - QUEENSLAND:
CONJUBOY, 500 M.
XI-5-1962 200 spec.

Open savannah woodland, Eucalyptus trees 40 ft. tall, grass a foot deep. Volcanic rocks and logs scattered about on damp ground — deep red soil. Most specimens taken under logs and stones scattered about. Heavy rain recently. Open foliage, not much shade. Trees spaced 20 - 30 ft. apart.

Warm, slightly cloudy afternoon, 85°F. Trees covered with cicada nymphal skins; deafening roar from large cicadas fantastically common in tree tops.

STOP 376 - QUEENSLAND:
40 MI. SW MT. GARNET,
750 M. XI-5-1962
600 specimens

Low scrub jungle, tangled vines and thorny bushes, very dense. Scrub growth reached a heighth of scarcely 15 ft., overshadowed by many evergreen trees (mostly FICUS) up to 40 or 50 ft. tall. Eucalyptus trees were present but not dominant. Many deciduous thorny species were present in the scrub vegetation. Lichens, some moss, and orchids on the trees.

Area basically dry this season, though heavy rains fell recently in the area. Soil deep, dark red-brown, no low-growing plants. Rocky outcrops scattered all through the scrub patch.

This is the farthest patch of scrub along the road S.W. of MT. Garnet; there is another patch some miles closer.

The patch is very sharply demarked from the surrounding woodland (perhaps edaphic factors - limestone?). There is no topographic change. Scrub-patch was not more than 3 miles wide.

Black light: near the road in a small clearing beneath a large fig - enclosed on all sides and above by bush. Many small moths. 75°, cooling to 68° by 11 P.M. Few clouds, ½ moon.

Morning 62°.

STOP 377 - QUEENSLAND:
26 MI. S.W. MT. GARNET,
650 M., XI-6-1962
100 specimens.

Open Eucalyptus woods of 30-40 ft. trees; grass carpet 1-ft. deep, slightly green. Soil damp from recent rains - reddish in color. Few scattered Eucalyptus seedlings and small shrubs scattered about. Most

specimens collected beneath logs.

STOP 378 - QUEENSLAND:
17 MI. E. MT. GARNET
620 M., XI-6-1962
150 specimens.

Stone and log turning on steep granite slope sparsely covered with grass - Very open Eucalyptus woodland. Soil still moist from recent rains. Net collecting along flowing stream in the Herbert River drainage below the road, in the bottom of the narrow valley - Creek lined with bottle brushes, large tea trees, and huge Casuarinas and streamside gums. Sweeping dry grass produced some insects.

STOP 379 - QUEENSLAND:
5 MI. W. RAVENSHOE, 780 M.
XI-6-1962 350 spec.

Camp at Millstream Falls,

now a public spot (used to be troop camp for aust. divisions 7 & 9, 1943 & 1944). Rolling country, entirely old basalts and lavas — Open Eucalyptus woodland of trees 20-30 ft apart, 40-50 ft. tall, with open canopy. Grass (perennial) 2 ft. tall.

Camp near edge of steep slope and cliffs, stream some distance below. Trail winds down steep lava slope, mostly grass-covered. The stream falls over columnar basalt cliffs into a large pool, and on through a narrow stream valley with deep grasses, bushes — in general lush and green — bottle brushes, large fig trees.

Sweeping grass near pond was most productive.

Block light — in woodland, not within sight of stream. Cool, mostly clear. 62° at 9 P.M.

Soil damp from recent rains — grass beginning to turn green.

STOP 380 - QUEENSLAND:
7 MI. N.E. RAVENSHOE,
975M. - XI-7-1962
800 spec.

Camp in large clearing with both old and freshly cut logs scattered here and there. Situated on a rolling hill covered with nearly undisturbed jungle. The slope across the road had been logged and was littered with dry cut trees.

Black light collecting rather poor. Some clouds, very slight breeze, half moon showing occasionally. Cool and damp - 60° by 10 P.M.

Some afternoon collecting from 4 MI. N.E. Ravenshoe was added to this stop — Specimens were taken in a small patch of moist ever-green jungle less than 1/4 mile long and 150 ft. wide, along the road to Millaa Millaa. Trees reached a height of

20 to 40 ft, forming a high dense canopy penetrated by very little light. A dense tangle of small thorny palms was present as well. Rolling, hilly countryside, mostly cleared and transformed to grassland. Deep red - brown soil with a thick, moist layer of leaf mold. Warm, sunny day, slight breeze. Bird-wings and other butterflies about. Collecting in rotting logs scattered about the jungle floor was good for beetles and ants.

STOP 381 - QUEENSLAND: MALANDA, 700M.
X 1-8-1962 800 spec.

Small reserve of native jungle with trees 70 ft. tall growing close together. Canopy solid, allowing scant light through to the jungle floor.

Ratan palm tangles here and there. Flowing stream; sweeping grass along creek banks was productive. Many specimens were taken beneath and within rotting logs and leaf litter of the jungle floor. Warm, sunny midday, 78°F.

~~Ato~~ Malanda Falls, about 1/2 mile from the town of Malanda, on the North Johnstone R.

Peripatus collected here

STOP 382 - QUEENSLAND!
TINAROO L., NR. KAIRI,
700M., XI-8-1962
200 specimens.

Tinaroo is a very large man-made lake with a fluctuating, disturbed shoreline and much LANTANA encroachment. Some specimens were taken sweeping a peculiar bladder-pod milkweed and grasses near a creek. Slopes of

the steep hills adjacent to the lake covered with various types of forest — tall Eucalyptus woodland, woods of "cumulus"-shaped acacias, or thick rain forest.

Camp located up a steep, narrow forestry track about 8 miles beyond the dam, directly in the midst of jungle, surrounded by large trees up to 100 and even 150 ft. high — slightly more open than Lake Cochan and much taller than the Ravenshoe area. Some rotan palm and undergrowth of seedlings and small plants. Ground rather bare, covered with a layer of rotting leaves and some decaying logs. Soil hard-packed, poor, with little topsoil on steeper slopes. Only slightly damp on the surface.

Cool night, somewhat

damp; poor collecting.

STOP 383 - QUEENSLAND:
LAKE EACHAM, 700 M.
XI-9-1962 600 spec.

Lake Eacham is a small, very deep, clear lake in an old volcanic crater within a national park of dense rain forest jungle. Most specimens were taken along the trail around the lake.

The park is on the Atherton tableland, not far from Atherton. Jungle trees reach from 70 to 120 ft. tall. Ratan palm thickets scattered about, and clumps of pandanus near the lake among immense FICUS trees. Gently rolling countryside, low hills, steep but small crater walls. Warm, sunny day; ground moist from recent rains.

Shells from steep lava slopes, deeply covered with soil & leaves.

STOP 384 - QUEENSLAND:
14 MI. N.W. CAIRNS, sea level, XI-9-1962
200 spec.

Camp in Hesp Park, directly against a steep hill covered with tall dry grass and open Eucalyptus woods. Ocean beach and mouth of a small creek located only 50 yards away. On all other sides: flat bottom land, probably swampy part of the year, covered with grass 4 ft. deep, slightly green, and tall paper-bark and Eucalyptus trees 40 to 50 ft. tall with open canopy — airy woodland with acacia. Casuarina in some thickets patches. Tree cycads on steep hill slopes. Small creek drainages (dry now) support narrow strips of denser, more tropical growth (not forest by any means - more

like Indian mango groves) — with some understory but not much grass in the heavier shade. A strip of mangrove tangles began near camp, dry at the upper end.

The entire woodland area was extremely dry at this time. Not a sign of moisture except heavy dew in the morning. 80° late morning, sunny.

Most specimens collected late afternoon and early morning. Black light poor — nearly full moon, clear. 68° F by 9 P.M.

STOP 385 — QUEENSLAND: 6 MI. W. GORDONVALE, 50 M., XI-10-1962
600 specimens.

Little Mulgrave River — Edge of dissected valley with high forested hills behind. Much of the valley is planted in sugar cane but the creek

course remains rather undisturbed. Thick grove, with fairly solid canopy, of 20-40 ft. evergreen trees. Patches of grass along the stream, undergrowth of herbs and ferns. 2 ft. deep. Lantana encroachment at sunny edges of grove, adjacent to cane fields. Shady and cooler along the stream; thick layer of leaves covering ground. Area very dry, no rain recently. Most specimens swept from understory, streamside herbage.

Hot, sunny day, clear, with slight breeze.

STOP 386 - QUEENSLAND: THE BOULDERS, NEAR BABINDA, 100 M., XI-10-1962 200 spec.

Small road up stream valley west of BABINDA. Camp in hilly country, a flat area at the foot of

the range. The forest in this park continues unbroken up the slopes of the range 3- to 5,000 ft. high and extends into the Atherton Tableland beyond.

Grassy clearing 150 ft. from a clear-flowing stream near large granite boulders. Undisturbed rain forest 100-130 ft. high along the stream. Weed encroachments along edges toward sugar cane fields. Dense forest with solid evergreen canopy; thick tangles of rattan palms, etc. Area rather dry just now except around stream.

Black light in clearing 150 ft. wide and a bit longer, drawing from grass and forest all around. 65°, cool, clear, nearly a full moon. Quit the light at 9:30.

STOP 387 - QUEENSLAND:
10 MI. S. TULLY,
20 M., XI-11-1962
100 spec.

Low coastal plain. Good patch of peculiar type of woodland blending into paper-barks, Eucalyptus and Acacia woods farther south. Here there was a strange mixture of Eucalyptus and paper-bark trees up to 60 ft. tall with a midstory of several species of palms, Pandanus, some acacias, and all sorts of small young trees and bushes. The ground cover consisted of several species of grass. The canopy was rather solid but not dense, letting in plenty of filtered light. Basically a swamp type woodland, and the area ~~was~~ is very clearly wet or inundated during part of the year. Nearly all the

species are evergreen. Walking was easy in some places, though young trees or a tangle of fig roots and Pandanus made some parts difficult to penetrate. Staghorn ferns and other epiphytes occur, though not thickly. The area is very dry just now. Mostly wet collecting in the woods or along the roadside where tall grass and seedlings made good sweeping. Brilliant blue swallowtails taken.

STOP 398 – PALUMA, QUEENSLAND
2900 ft. XI-11-1962
150 spec.

Rain forest 100-150 ft. high, with a great variety of plants – dense tangle of vines and ratan palms. Rolling and hilly country at the top of the mountain escarpment. Fairly dry just now. Black light

situated in a very small clearing along a smaller cleared track through the forest - rather limited exposure. Full moon covered by thin layer of low, misty clouds. Fog caused some tree drip. Generally poor light collecting. Some rotten log collecting good. 65° by 9:30 P.M.

STOP 389 - QUEENSLAND:
10 MI. S.W. TOWNSVILLE,
50 M. XI-12-1962
150 specimens.

Generally flat country in close proximity (1/2 MILE) to wood-covered and grassy hills. Camp in flat field of open Eucalyptus woodland with grazed grass ground cover, rather sparse. Extremely dry - everything brown. Black light poor; warm, nearly clear night with moonlight.

Off Charter Towers road:

STOP 390 - QUEENSLAND:
TOWNSVILLE, sea level
XI-13-1962
150 specimens.

Cape Pallarenda

Most specimens from camp located on Cape Pallarenda road north of town, backed directly by a rocky hill, and on 2 sides by open woodland of coastal trees (acacias, some Eucalyptus, a variety of figs, etc., and a thicket of thorny bushes as an understory in some places. Mangroves and grassy fields bordering a trailer park. Very dry grass on sandy soil. Camp right in shade of Eucalyptus and fig trees against hill. Partially cloudy, warm, slight breeze from sea 150 yards away. Very dry.

STOP 391 - QUEENSLAND:
14 MI. N.W. AYR, 20 M.
XI-14-1962
1500 spec.

(12 miles from Giru) open woodland of mostly Eucalyptus trees, some deciduous trees - leaves sparse now. Grass ground cover. Condition extremely dry. Specimens collected mostly by sweeping herbs and some grass along standing pools (with algae and water lilies) in partial shade of 50-ft. paper-bark trees, Eucalyptus, & others. Midstory of palms; tall dry grass on sandy ground. Aquatics from small, warm pools of WEST BARRATTA CK, shallow, filled with aquatic plants. Clear, breezy, hot. 88°F. Streamside herbs 1-3 ft.

grass and a very open woodland blending off into scrub on the hill slopes a few hundred yards away. Day specimens from creek in a canyon behind beach, into scrub jungle — with lantana encroach: scrub lined stream is only place to walk. Black light, fair; mostly clear, slightly breezy evening.

Camp XI-17 between Airlie Beach and Shute Harbor, on a small side track to a large clearing used once in a while for an air strip — across road from a large National Park reserve. Camp right in a patch of scrub jungle with trees up to 60 ft. Tangle of scrub around edges, but easy walking inside. No ground cover in filtered light — just leaves and logs. Fairly dry. Many butterflies in scrub.

STOP 392 - QUEENSLAND:
37 MI. NW. BOWEN, 20 M.
XI - 14 - 1962 200 spec.

Flat, coastal plain, deep black-cotton, heavily-cracked soil covered with 1-ft. brown grass. Open Eucalyptus woodland - trees widely spaced, with much open grass area. Camp by a small rocky hill with grass and scattered Eucalyptus trees and some fig trees. Warm, sunny late afternoon; warm, slightly breezy evening. Moon rose sometime after dark.

Nr. Armstrong Ck.
80°+ day. No-seeums biting. Very dry.

STOP 393 - QUEENSLAND:
CANNONVALE, 0-30 M.
XI-15-1962 800 spec.

Camp the first night in the trailer park at Airlie Beach - large clearing surrounded on 3 sides by 4-ft. dry

Black light: drawing along the road. Poor. A shower developed during collecting.

Much lantana encroachment.

STOP 394 - QUEENSLAND:
2 MI. E. EUNGELLA,
450 M., XI-18-1962
200 spec.

Extremely steep creek running up very steep slope of escarpment. Slopes forested with tall scrub-rainforest. Creek canyon supports many tall palms. Filtered sunlight. Small herbs growing in lighter spots, along the stream. Tiny trickle in the creek. Creek stream with very large granite boulders and logs propped here and there across them. Fair net collecting. Good beetles, including lucanids, in rotting logs.

STOP 395 – QUEENSLAND:
8 MI. N.E. EUNGELLA, 950M.
XI – 18 – 1962
1000 spec.

Camp located in a dense patch of rain forest between the DALRYMPLE HEIGHTS ROAD and an extensive cleared rolling field several hrs. in extent, littered with rotting stumps and logs. Carpet of green grass. Black light situated along a corridor track through the forest about 100 ft. from the cleared field. 70° evening, cooling to 65°. Clouds developed and dropped a small amount of rain. Slight breeze. Great numbers of beetles came to the light. Good collecting in rotting logs.

Forest consisted of a variety of trees up to 120 ft. in height with some emerging to 150 ft. Many tall palms, and tree ferns in spots. Thick undergrowth of seedlings

and smaller plants. No thorny rattan vines here. Staghorn and other epiphytes on the trees. Ground littered with layer of decaying leaves and logs. Some rain recently; area fairly damp. Rather clear morning. Severe lantana encroachment along the road and in some clearings.

Black light from dusk to 1 A.M.

Edge of EUNGELLA NATIONAL PARK, in the Clarke Range.

STOP 396 - QUEENSLAND:
26 MI. S.W. SARINA, 220 M.
XI-19-1962 1000 spec.

Camp on side road along a small, dry rocky creek, in a small creek valley with sloping sides. Range of hills on three sides; slopes with damp soil from recent rains, rocks and logs and limbs scattered all about. No fires recently; 1-ft. dry

grass still on the ground with lots of leaves. Entire area under savannah woodland. Eucalyptus trees 40-60 ft. high mostly — few Casuarinas and greener growth (not thick) along the creek. Some paper bark trees. Trees spaced ten to 30 ft. apart, with very open canopy, not much shade. Some Eucalyptus trees nearly deciduous.

Black light — directly in woodland slopes near camp. 74°, nearly clear, no moon. Slight breeze. Scattered clouds by 9 P.M., with couple of momentary drizzles. Huge number (about 200) MANTISFIDS came to the light. Excellent collecting under stones + logs.

STOP 397 — QUEENSLAND:
YATTON CK., BRUCE HWY.,
200 M. XI-20-1962
100 spec.

Eucalyptus woodland and scrub — 50 to 70 ft. Eucalyptus

trees, tall acacias, and a great mixture of small plants and thorny ground cover. Large number of big Casuarinas ~~with~~ here & there. Grass cover also. Ground littered with logs and branches. No fire this season. Area very dry. (Some rain not long ago; ground moist down a few inches). Collecting rather poor; mostly under logs profitable. Probably prior encroachment, some 20 ft. tall. Gently rolling country marked by small creek gullies, mostly dry now.

6 MI. S. CROYDON.

STOP 398 - QUEENSLAND:
CANOONA, 75 M., XI-20-62
100 spec.

Camp not far from gentle hill, on sloping area scraped sometime ago for gravel. Re-growth of small acacias. Camp surrounded by open woodland, largely of Eucalyptus species; ground cover of grass,

some "blackboys" and cycads and small 4-7 ft. acacias. Soil: reddish gravel, slightly damp in some places. Fairly clear evening, 70°, slight breeze. Collecting poor - very little under stones and logs.

STOP 399 - QUEENSLAND:
17 MI. W. MONTO, 500 M.
XI-21-1962 1500 spec.

Forestry reserve, COOMINGLA RANGE. Camp in mixed Eucalyptus woodland - trees up to 60 ft. high, spaced 20 - 30 ft. apart, with an open canopy. Grass cover, with some E. seedlings, acacia seedlings, and various mid-story bushes up to 6 ft. Casuarina trees 20 - 40 ft mixed in here & there. Soil fairly moist from some recent rain. Camp on gentle slope. Black light drew from woodland all around. 66° at 10 P.M., rather

still, partially cloudy.
Good collecting under logs.
Big bulldog ant nests
all about. Excellent black
light collecting. Buprestid
on mid-story bushes.

STOP 400 - QUEENSLAND:
16 MI. N. EIDSVOLD, 200 M.
XI-22-1962 200 spec.

Small patch of acacias up
to 60 ft. tall, growing fairly
close together. Midstory of
acacia seedlings, and bushes
about 5 to 10 ft. tall. No
ground cover; leaf litter
and logs scattered about on the
ground. Soil moist a few
inches down. Surrounded by
much more open Eucalyptus
woodland of mixed species, with
grass ground cover. E. seedlings
and small plants 2-4 ft. tall
scattered through the woods in
full sun or slight shade.
Open canopy, little shade.
Collecting mostly under logs.

STOP 401 — QUEENSLAND:
EIDSVOLD, 200M., XI-22-62
100 spec.

Short afternoon stop out of town on the MUNDUBBERA ROAD, where the road passes between two conical ridge remnants. Mixed Eucalyptus and large acacia woodland, washed and rather bare sandy earth in spots, grassy clumps in others. Some tree seedlings up to 6 ft, and a small species of acacia as midstory bushes. Open woodland, airy and light — trees 20-30 ft. apart. Specimens under logs (dry); weevils, wasps, etc. on small acacias and eucalypts.

STOP 402 — QUEENSLAND:
10 MI. S. BAN BAN, 200 M.
XI-22-1962 600 spec.

(26 MI. S.E. GAYNDAH) Rolling countryside, generally mixed Eucalyptus woodland with grass cover. Camp located near BRANT RIDGE homestead; situated right at the edge of a gentle slope in

C. Savannah woodland, only 20 ft from the edge of a fair-sized patch of scrub in a small gentle creek canyon. Variety of trees, including araucarias, with many small shrubs and trees, often thorny and tangled near scrub edges. Woodland recently cleared of grass by fire, but the scrub did not burn. Black cotton soil; "sticky" when wet — still moist under logs from recent rains.

Black light — drawing from woodland and scrub both. Still, partially cloudy evening, 70-75°. Light rain fell in spells during light collecting: insects tapered off toward 10 P.M. Clear early morning, becoming cloudy with substantial showers by 8:30.

Collecting under logs and some stones in woodland area was productive.

STOP 403 - QUEENSLAND:
4 MI. N. YARRAMAN
400 M. XI-23-1962
200 specimens.

Rocky Hill School, just up from Rocky Creek.

Mixed Eucalyptus woodland area with this large patch of tangled scrub growing beneath occasional E. trees. Much land between Yarraman and Rocky Hill School has been cleared for pine and Araucaria plantations, and some of these forests have reached good size.

Some parts of the scrub are difficult to penetrate; the growth is often thorny and tangled with low twigs and vines. The scrub might average 15 ft. in height. Ground dry on surface; recent rain dampened soil slightly in spots, but soil was damp farther down, under logs & stones. Lichens and some moss on stones and trees. Partially cloudy morning.

STOP 404 - QUEENSLAND:
10 MI. N.W. CROWS NEST
440 M. XI-23-1962
200 specimens.

Mixed Eucalyptus woodland, trees about 50 ft. tall growing 10-20 ft. apart. Some grass ground cover — not the more common deep, thick grass of previous stops. Rocks, logs, and leaves littering the ground. E. seedlings, acacias, and other bushes up to 8 ft. high scattered here and there. Ground moist from recent rains. Amazing number of ant species — many large bulldog ant nests about. Cloudy afternoon.

Rolling countryside along Rocky Gorge Creek.

STOP 405 - QUEENSLAND:
NR. TOOWOOMBA, 500M.
XI-23-1962
600 specimens.

Camp located a few miles south of the City on a back road down the Dividing Range escarpment to the Brisbane

Hwy, via the little farming village of Blanchview. Camp in steep hilly country between the city and Mt. Davidson and One Tree Hill, situated in a small grassy valley, cleared, with mixed Eucalyptus woodland nearly all around. Some farm disturbance noted, such as Lantana encroachment in places. Cool night - 60°F, clear. Area moist from rains, grass greening up some.

Black light collecting rather poor. Some specimens collected under bark flakes and fallen logs.

Additional specimens were collected on the Brisbane Hwy., same elevation, in Eucalyptus woodland with grassy slopes and heavy Lantana encroachment — near the Kiosk and B.P. station. Warm, sunny midday. Sweeping grass and herbs was productive.

STOP 406 - QUEENSLAND:
TOOWOOMBA, 650 M.
XI-24-1962
100 specimens.

Short morning stop at Picnic Point, on the edge of the Great Dividing Range, overlooking the city on one side, the plains on the other. Primarily Eucalyptus woodland, trees 40 to 50 ft. high with a grass cover beneath. Disturbed area with clover and other weeds, especially Lantana. Collected near parking area and Kiosk. Area moist from recent rains; grass greening up a bit. Large series of scarab — taken primarily on "butterfly bush" right in town.

Few specimens: 4 MI. E.
HATTONVALE - XI-24-1962
150 M. - legless lizard as well. Hilly ridge dropping down to the IPSWICH area. Cleared for pasture, entirely disturbed with Lantana, etc.

STOP 407 - QUEENSLAND:
15 MI. W. BRISBANE,
400 M. XI-24-1962
300 specimens.

Out WATERWORKS ROAD, beyond "THE GAP", on the road to MT. NEBO. Camp on the top of a rather steep sloping ridge, in very hilly terrain, with Brisbane in view on the undulating plain below. State Forest land. Mixed Eucalyptus woodland with trees up to 70 ft. tall growing 10-15 ft. apart. 8-ft. young acacias and some E. seedlings beneath the open canopy, with grass covering black soil - moist from recent rains. Grass turning green. Variety of ants.

Black light fair - peculiar green cicada came to the light. 60°F. clear.

Occasional Casuarinas scattered about.

STOP 408 - QUEENSLAND:
CEDAR CK. FALLS,
TAMBORINE, 180 M.
XI - 25 - 1962
600 specimens.

Picnic spot on the road from Tamborine up Mt. Tamborine - located near the base of the mt. Road to the small falls passes along a small vale between steep sloping hills and stops in a small parking area surrounded by large Eucalyptus trees. The parking area is surrounded by hills, with slopes close to camp. Variety of Eucalyptus trees and Casuarinas on rocky slopes with E. seedlings, acacias, and small shrubs up to 4 ft. scattered about in varying thicknesses growing beneath them. Grasses on slopes, especially deep at base of hills. Small vale - open area without trees in places - grass 4 ft deep, milkweeds, bracken ferns, etc. Part of the vale under large E. trees giving light shade. Acacia & E.

seedlings up to 10 ft., good for beetles. Variety of bushes growing along the flowing creek were good also for insects. Grass greening up; soil moist from recent rains. Many mosquitos. Beetles were collected in small creek pools.

Black light: drawing from slopes and the creek (75 ft. away). Fairly good variety. Partially cloudy evening, slight breeze in the sheltered area of camp, but a terrific wind was blowing on the slopes higher up the mountain. Sunny morning. Variety of flies came to the black light. Colorful Katydid.

STOP 409 – QUEENSLAND:
CURTIS FALLS, MT. TAMBORINE,
400 M. XI-26-1962
200 specimens

(Near North Tamborine) –
On the road from Tamborine to North Tamborine and Eagle Heights. The general vegetation on Mt.

tamborine is fairly thick Eucalyptus woodland of large trees and a grassy ground cover, but some rain forest persists in patches. Here, in JOALAH NAT. PARK, there is a large area of rich rain forest in a creek canyon at Curtis Falls. The upper edges of the forest consist of a blending of tall Eucalyptus with a great variety of tropical trees and vines, creating an extremely complex flora. Deeper in the rain forest the tropical elements prevail, and buttress trunks, rattan palms, tall slender palms (in groves along the creek), and large vines and tree ferns are much in evidence. The canopy is solid, the leafy forest floor very dark in places, sunlight filtering in only in small spots. Partially cloudy morning, slight rain for a few minutes. Some net work; mostly Passalids and other insects in rotting logs, under stones (many rocks in some places), and leaf litter.

Forest floor very damp.

STOP 410: QUEENSLAND:
MT. TAMBORINE, 450 M.
XI-26-1962 50 spec.

Short afternoon stop right on the edge of the escarpment crest; small road from the rather flat mountain top down to CANUNGRA. Top of mtn. generally chopped up — farms and homes. Escarpment covered with Eucalyptus and Casuarina woodland, very steep slope, some faces of sheer rock. Deep grass, much Lantana encroachment. Area moist, grass greening up. Sunny, warm.

STOP 411 - QUEENSLAND:
15 MI. S.W. BURLEIGH HEADS, 50 M., XI-26-1962
400 spec.

Stop on the road S.W. of Burleigh Heads, through W. Burleigh, up the TULLEBUDGERA CK. valley, with many

picturesque farms. Valley narrows until there is no relatively flat land left. The road becomes a narrow plantation track but eventually winds its way all the way to Springbrook. One mountain above the valley, the Pinnacle, is 2067 ft. high, and Bally Mts. to the north is 1602 ft. Camp situated right along Tallebudgera Ck. here only a few feet wide, clear, and flowing over a small rocky bed. Lantana encroachment along bank and road. Slopes rise steeply on both sides, covered with thick Eucalyptus forest up to 90 ft. high with many palms and other tropical elements mixed in. Undisturbed forest. Black light - drawing from creek only few ft. away. Many aquatics came, and from forested slopes and green grass all along the creek. Some specimens collected during fairly sunny morning. Evening nearly clear, about 60°. Insects quit coming to the light by 11 p.m. Many

large Sphingids were taken.

~~STOP 412 - QUEENSLAND:~~
~~CAPE BYRON, 5 M.~~
~~XI-27-1962~~

NEW SOUTH WALES

STOP 412 - N.S. WALES:
CAPE BYRON, 5 M.
XI-27-1962
200 spec.

Town of Byron Bay is situated on a coastal plain near rolling hills leading to the high rocky cape with a light house. Camp in Campground #2, the last before the road ascends to the light house. Camp located in an amphi-theater clearing covered with grass, surrounded on three sides by original jungle flora and on one by a small beach not far away. Flora a special beachside combination with a great variety of plants — small Eucalyptus trees, palms, Banksias up to 15 ft. tall, Casuarinas, etc.

Peculiar small Banksias and a tangle of other plants growing beneath the woods, with very large cycads, forming a nearly impenetrable jungle in places. Typical seaside windblown look. Sandy soil, dry. Some specimens collected under palm logs. Black light poor. Rather windy night, sunny morning. Some insects taken in low grass and shrubs by the light house.

STOP 413 — N.S. WALES:
MACLEAN, 150 M.
XI-28-1962
200 spec.

Short stop on dirt road extending from the town to the lookout on the only large hill adjacent to town, situated itself on fairly flat coastal plain. Eucalyptus and Casuarina woodland, letting plenty of light in on deep grass and mixed shrubs, Eucalyptus seedlings, and acacias in the understory. Hot sunny day.

area greening up; part burned over. Great variety of insects, many weevils resting on acacias and E. understory shrubs.

STOP 414 - N.S. WALES:
GWYDIR HWY., E. SIDE
GIBRALTER RANGE,
450 M., XI-28-1962
200 spec.

"MIDDLE BEND" in the grade - either MCKEL'S or MCKEEL'S SPUR -

Steep escarpment covered with thick mixed Eucalyptus forest (and related genus with orange bark - TRISTANIA?), with Casuarinas mixed in on the ridges. Camp in flat clearing of bare earth part way up the grade, on a ridge, dropping off steeply on one side, cresting above camp on the other. Trees 50 - 70 ft. high on the ridge; E. trees of large diameter, with small bushes & seedlings up to 6 ft. in the understory. Grasses and many kinds of ferns in

the filtered shade. Over the ridge is a steep canyon, with many trees over 100 ft. tall, mixed with various palms and tree ferns. Slopes covered with many species of ferns; some climbing ferns on trees along with moss. Rocky slopes, fallen logs. Smaller plants of all kinds in the canyons. Night collecting very poor, almost nothing but 1 big frog. Storm threatening; rain began to fall late in the afternoon, with periodic showers and thunder all evening. Clear morning with some insects flying.

STOP 415 - N.S. WALES:
DANDAHRA CK., GWYDIR
HWY. 1000 M.
XI-29-1962
200 spec.

Short morning stop, weather clouding up heavily. Short distance beyond the summit in Eucalyptus woodland of large trees up to 60 ft. or so, on

rolling hills among large granite boulder outcrops. Understory – a thick growth of a great variety of shrubs, including bottle brushes and other myrtaceous plants covered with white flowers; special grasses and reeds mixed in; all understory about 2 – 4 ft. deep and fairly thick. Forest canopy not solid; fair light penetrates to understory. Immense "black boys", some tree ferns, and a few palms scattered about, emerging above the understory and forming a broken "mid story". Most specimens were swept from understory vegetation, especially flowering myrtles. Some ants, etc., were taken beneath stones and fallen limbs. Many ferns, including climbing species, mixed in understory.

STOP 416 - N.S. WALES:
4 MI. S. GLENCOE,
1280 M. XI-29-1962
2000 specimen.

Rolling, hilly countryside on the Great Dividing Range, along the New England Hwy., from ~~Glencoe~~ Glen Innes to Armidale. Pasture country, with much cleared land. Most of the pastures, especially on rolling slopes, retain some of the original trees, and many slopes seem to be covered with most of the original trees. Camp situated on a broad ridge in an open Eucalyptus woodland with trees up to 50 ft. tall and smaller Banksia trees 10 or 15 ft. Trees spaced well apart, allowing plenty of sunlight (full light in many spots) to shine on the green grass forming a solid ground cover. Ground rather rocky in places - rocks fairly buried in the grass. Fallen logs and branches scattered around. Slope drops off near camp

into a small creek valley (grassy) below, out of view of the light. Sweeping the grass and bracken fern patches was especially productive here and on the ridge as well. Collecting under strips of Eucalyptus bark on certain trees was excellent for beetles, etc. Black light: partly cloudy afternoon and evening, becoming very cool later. Light drawing from surrounding grassy woods. Mostly scarabs. Sunny, brisk morning. Area moist and green.

STOP 417 – N.S. WALES:
APSLEY FALLS, NR. WALCHA
975 M., XI-30-1962
4000 specimens.

Rolling, gentle countryside. Side road branches off the OXLEY HWY. into falls about ½ mile. Open Eucalyptus woodland, trees widely spaced in some places; understory of grass 1 or 2 ft. deep. Apsley Creek

flows gently along small valley, with myrtaceous shrubs, reeds, and deep grass along its banks together with some small acacias. Few big weeping willows introduced, otherwise mostly native flora. Creek plunges over sheer cliff into a very deep gorge with nearly vertical sides. Sweeping white-flowered myrtles along the edge of the cliffs, and succulent Eucalyptus suckers growing from cut stumps was excellent. Sweeping grass was quite productive. Many OGSNATA along stream. Camp and black light facing out over the stream. Some aquatics, but rather poor black light collecting. Cool. Red-eyed possum came to camp. Warm, sunny morning. Some specimens taken under logs and bark.

STOP 418 – N.S. WALES:
40 MI. S.E. WALCHA,
1075 M. XII-1-1962
200 specimens.

Overgrown site of an old store, or some such structure, not far from a forestry camp. NEAR MYRTLE SCRUB and SEAVIEW ROADS, joining with the OXLEY HWY. Nearest real rain forest lies some 1/2 mile down the hill to the S.E.

Rolling hilly country, before the road descends gradually some distance from the steepest grades down to YARRAS. Mixed Eucalyptus forest up to 70 ft. high, large trees spaced closer than in a woodland situation. Understory in filtered shade consisting of tree ferns and other ferns, grass, E. and acacia seedlings, and a variety of small bushes including acacias and other understory species.

Store site clearing: old fruit trees (cherries, plums, etc.)

Small patch of grass and white daisies, small pond; encroachment of deep patches of rose and blackberry vines. Most specimens collected under large damp rotting logs; area damp and green from frequent rains. Sunny, warm day. Growth is thickest in the gullies where the forest canopy is more thoroughly closed. As in most pure E. stands, however, the shade is never very dark or complete.

STOP 419 - N.S. WALES:
NR. COMBOYNE, 550 M.,
XII-1-1962
200 specimens.

Camp directly at the edge of N.W. escarpment, after a steep climb up from BYABARRA. Beyond the crest the countryside levels off into rolling hills, an area mostly cleared for grazing. Camp about 2 mi. N.E. COMBOYNE, very near the Comboyne General Cemetary. The

escarpment is entirely wooded, sheer cliffs in part. Camp in fairly flat area very near the edge. Eucalyptus woodland, trees fairly close together, giving fair shade to the grass & fern understory. Black light: moderately cool, fairly clear night — poor collecting. Diurnal insects collected next morning after a thick fog lifted — taken in the vicinity of a small creek, shallow canyon, which drops off a very high cliff, in mixed E. woods with acacia, Casuarina, tree ferns, blackbays, and some tropical elements scattered along the creek. Not much on the ground in this thicker woods; some grass, and lots of green grass all along the edges. Cleared small patches with growth of weeds & bushes. Sweeping white-flowered Composit bushes in the sun was good. Good collecting under logs, damp soil.

STOP 420 - N.S. WALES:
NR. CATHERINE HILL BAY,
60 M., X 11-2-1962
200 spec.

Rolling hills half a mile inland from shoreline — unique woodland of several Eucalyptus species 20 - 40 ft. high, some with orange bark, some with mottled bark. Casuarinas mixed in. 2 species of Banksia, one a small tree, the other a low bush in an understory of acacias and other legumes, strange grasses, blackboys, cycads, and myrtaceous shrubs all about 2 ft. high. Some Eucalyptus and acacia seedlings also. Great variety of plants in the understory. Rather sandy soil, fairly dry, a bit damp beneath larger logs. Some slopes rather stony. Black light directly in woodland, rather poor. Cool night, breezy.

Sunny morning, many cicadas.

STOP 421 - N.S. WALES:
5 MI. N. HAWKESBURY R.
BRIDGE, 150 M.
XII-3-1962
100 specimens.

Short afternoon stop, Pacific Hwy. in hilly country, steep ridges with sandstone ledges - very rocky; soil sandy. Mixed Eucalyptus woodland, 30 to 50 ft. trees with widely branched crowns. Filtered airy shade, some patches in full sun. Understory of low shrubs. Banksias, acacias, various myrtaceous and proteaceous shrubs, small-leaved and often thorny, up to 3 ft, larger clumps in creek gullies. Fairly dry area. Sword-leaved liliaceous plants. Flora intact and not recently burned. Deep leaf-litter in places.

STOP 422 - N.S. WALES!
ELANORA, NR. NARRABEEN,
100 M., XII-3-1962
150 specimens.

Short afternoon stop on a steep hill above Narrabeen, very near the center of the little community suburb of Elanora, just above a dam across a small creek. View of Narrabeen + the coast. Low Eucalyptus woodland, especially in valleys, pure "chaparral" of Banksias, myrtles, proteaceous plants, small acacias, etc., on some open and exposed slopes, up to 4 ft. deep, with patches of low reeds and sedges in wettest spots. Some wild flowers in bloom. Sandy soil, sandstone ledges here and there, no fires recently. Ground moist. Specimens taken under stones and along creek and reeds + cattails by small dammed lake. Casuarinas (small) in chaparral. Partially cloudy, fairly warm.

STOP 423 - N.S. WALES:
ROYAL NATIONAL PARK
125 M., XII-6-1962
500 specimens.

Camp 5 MI. S.E. AUDLEY, on FLAT ROCK CK., along STEVENS DRIVE.

(1) Steep rolling hills with a profusion of sandstone ledges. Open Eucalyptus and Casuarina woodland on the slopes - trees 25 to 30 ft. tall in some areas, large shrubs in other places, tapering off to pure "Chaparral" 3 to 5 ft. deep on some exposures. Understory of mixed bushes, many pine-like and small-leaved, growing in sandy soil. Greatly varied flora - several Banksias species ranging from 2 to 10 ft. tall, many small acacias, Grevillias, and myrtaceous shrubs. Soil very moist from a heavy rain the day before. First collecting area: up the hill from Audley (K105K) on Stevens drive.

(2) Camp (75 M.) in a small gentle stream vall (Flat Rck. Ck.)

of sandstone formation. Trees up to 40 ft. tall, widely branched, giving filtered shade in spots and open sun in others. Understory of Banksias, acacias, pandanus grass-like sedges(?), all up to 6 or 10 ft. in places, and fairly thick. Many proteaceous elements present. "Blackboys" also, and large sword-leaved liliaceous plants. Variety of Eucalyptus species. Permanent stream a few ft. wide, with deep holes in places. Sweeping white-flowered Leptospermum (?) bushes and Eucalyptus blossoms was good for Buprestids and flies.

Weather: partially cloudy and cool night (we had no light this night) - Morning - scattered showers, entirely overcast, and cool. Alcohol specimens taken under logs and stones.

No fires recently, though E. bark was still charred from a fire long ago. Flora in excellent condition.

STOP 424 - N.S. WALES:
MACQUARIE PASS,
350 M., XII-7-1962
300 specimens.

Camp located not far from the summit of the pass, 9 miles from Robertson, 2 road miles from the bottom of the grade. There are some nature reserve picnic spots off the road, small grassy clearings with tracks going off in the bush. Mixed Eucalyptus forest with a variety of small understory trees up to 15 ft. tall. A wet zone - lots of bracken ferns in open areas, only leaf litter and rotting logs in the dense shade. Some understory shrubs in places receiving more light. Many leaches! Scattered showers, heavy rain in the evening and night. Black light take: poor. Next morning clear and sunny upon a soaked forest. Good collecting.

STOP 425 - N.S. WALES!
ROBERTSON, 760 M.
XII-8-1962 800 spec.

Short morning stop in the ROBERTSON NATURAL PARK - a small patch of native vegetation on a gentle knoll in the otherwise cleared and disturbed rolling high country. Trees in this woodland are short - up to 30 or 40 ft. at the most, very dense, forming a nearly solid canopy, with a tangle of understory plants, all giving heavy shade to the mossy rocks and leaf litter of the forest floor. Ferns and tree ferns here and there (tree ferns must once have been more abundant but have been crowded out). Collecting under old fallen tree fern trunks and stones was productive for centipedes, carabids, etc. Moss growth on trees and rocks is extensive.

Some specimens were taken around the edge of the park, sweeping seedling grass and blossoming privet, escaped from a garden. Blackberry en-

crochment

Acacia (black) prominent trees in the plant association, but many peculiar tropical elements are also present. No Eucalyptus here.

Warm sunny morning, forest very wet from a couple of days of rain.

STOP 426 - N.S. WALES:
8 MI. S.W. MOSS VALE, 700 M.
XII-8-1962

Short stop where the Robertson-Moss Vale road intersects the Hume Hwy, near Black Bobs Creek. Mostly cleared grazing country, rolling gentle hills. Here, by a creek, there is an area of open grassy woodland of acacias, Eucalyptus, small bushes and blackberries gone wild. Open grass and little shade beneath the trees. Many branches, logs, and stones to turn. Sweeping the grass was fair. Area very moist from a couple days of rain. Cloudy weather; collecting terminated by heavy shower.

STOP 427 - A.C.T.: COTTER DAM, 500M., XII-8-1962
2000 specimens.

Camp in the public campground along the river near Cotter Dam, in a small V valley with sloping, rolling hills on both sides. Slopes across the river: native grassy hillside with open Eucalyptus woodland - well-spaced trees. Casuarina and acacia along the stream, heavy blackberry encroachment. Some patches of bracken fern. Large Leptospermum bushes up to 15 ft., most in full flower, growing in vicinity of the stream, were excellent for sweeping. Grass on the hills and the camp flat was also good for sweeping. Collecting under E. bark was excellent and in some places under stones on rocky slopes. More Leptospermum and other small bushes grow in patches on the slopes. One slope supports a Eucalyptus plantation.

Weather: Cloudy night, cool, with showers. Black light - poor. Clear, sunny, warm all

the next day. Rain had been falling for a few days and the stream was swollen. A strong wind came up by midday. Ground moist from heavy rains — Grass seeding but greened a bit from the rains.

Asian Expedition 1961 - 1962;

QUEENSLAND: 17 mi.
E. Mt. Garnet
650 m. XI-6-62 150

QUEENSLAND: 5 mi.
W. Ravenshoe
700 m. XI-6-62 350

QUEENSLAND: 1 mi.
N.E. Ravenshoe
975 m. XI-7-62 800

QUEENSLAND:
Malanda 700m.
XI-8-1962 800

QUEENSLAND: Tinaroo
near

QUEENSLAND: Tina-
roo L. nr. Kairi
700 m. XI-8-62 200

QUEENSLAND:
L. Eacham 700m.
XI-9-1962

QUEENSLAND: L.
Eacham, 700 m.
XI-9-1962 600

QUEENSLAND: 14 mi.
N.W. Cairns
sea level
XI-9-1962

QUEENSLAND: 14 mi.
N.W. Cairns, sea
level XI-9-1962 200

QUEENSLAND: 6 mi.
W. Gordonvale,
50 m. XI-10-1962 600

QUEENSLAND: The
Boulders, near
Babinda, 100 m.
XI-10-1962 200

QUEENSLAND: 10 mi.
S. Tully, 20 m.
XI-11-1962 100

QUEENSLAND:
Paluma, 2900 ft.
XI-11-1962 150

Ross & Cavagnaro

QUEENSLAND: 10 mi.
S.W. Townsville,
50 m. XI-12-1962 150

QUEENSLAND:
Townsville
sea level
XI-13-1962 150

QUEENSLAND: 14 mi.
N.W. Ayr, 20 m.
XI-14- 1962 1500

QUEENSLAND: 37 mi.
N.W. Bowen, 20 m.
XI-14-1962 200

QUEENSLAND:
Cannonvale
0 - 30 m.
XI-15-1962 800

~~QUEENSLAND:~~

QUEENSLAND: 2 mi.
E. Eungella, 450m.
XI-18-1962 200

QUEENSLAND: 8 mi.
N.E. Eungella,
950 m. XI-18-62 1000

QUEENSLAND: 26 mi.
S.W. Sarina. 220m.
XI-19-1962 1000

QUEENSLAND:
Yatton creek
Bruce Hwy.
200m. XI-20-62 100

QUEENSLAND:
Canoona, 75m.
XI-20-1962 100

QUEENSLAND: 17 mi.
W. Monto, 500 m.
XI-21-1962 1500

QUEENSLAND: 16 mi.
N. Eidsvold, 200 m.
XI-22-1962 200

QUEENSLAND:
Eidsvold,
200m. XI-22-62 100

QUEENSLAND: 10 mi. S. Ban Ban, 200 m. XI-22-1962	600
QUEENSLAND: 4 mi. N. Yarraman 400m. XI-23-1962	200
QUEENSLAND: 10 mi. N.W. Crows Nest, 440 m. XI-23-1962	200
QUEENSLAND: near Toowoomba, 500m. XI-23-1962	600
QUEENSLAND: Toowoomba, 650m. XI-24-62	100
QUEENSLAND: 15 mi. W. Brisbane, 400m. XI-24-1962	300
QUEENSLAND: Cedar cr. Falls, Tamborine 180 m., XI-25-1962	500 ?
QUEENSLAND: Curtis Falls, Mt. Tamborine 400 m. XI-26-1962	200
QUEENSLAND: Mt. Tamborine, 450m. XI-26-1962	50
QUEENSLAND: 15 mi. S.W. Burleigh Hds. 50 m., XI-26-1962	400
N.S. WALES: Cape Byron, 5 m. XI-27-1962	
N.S. WALES: MacLean 150m. XI-28-1962	200
N.S. WALES: Gwydir Hwy. E. side Gibralter Range 450m.	
N.S. WALES: Gwydir Hwy. E. side Gibralter Range, 450 m. XI-28-1962	200
N.S. WALES: GWYDIR HWY. E. SIDE GIBRALTAR RANGE 450 m. 28-XI-1962	

N.S. WALES: Dandahra cr. Gwydir Hwy. 1000 m. XI-29-62	~~200~~
N.S. WALES: Dandahra cr. Gwydir Hwy. 1000 m. XI-29-1962	200
N.S. WALES: 4 mi. S. Glencoe, 1280m. XI-29-1962	2000
N.S. WALES: Apsley Falls, nr. Walcha 975 m. XI-30-1962	4000
N.S. WALES: 40 mi. S.E. Walcha, 1075m. XII-1-1962	200
N.S. WALES: near Comboyne, 550 m. XII-1-1962	200
N.S. WALES: near Catherine Hill Bay 60 m. XII-2-1962	200
N.S. WALES: 5 mi. N. Hawkesbury r. br., 150m. XII-3-62	100
N.S. WALES: Elanora, nr. Narrabeen, 100 m. XII-3-1962	150
N.S. WALES: Royal National Park, 350 m. XII-6-1962	500
N.S. WALES: MacQuarie Pass 350m. XII-7-1962	300
N.S. WALES: Robertson, 760m. XII-8-62	~~800~~
N.S. WALES: 8 mi. S.W. Moss Vale, 700 m. XII-8-1962	300
AUSTRALIA: A.C.T. Black Mtn, 760 m. XII-9-1962	200
AUSTRALIA: A.C.T. Cotter Dam, 500 m. XII-8-1962	2000

N.S. WALES: Wagga, 200 m. XII-11-1962 200

N.S. WALES: Wagga Agric. College, 275 m. XII-11-62 150

N.S. WALES: 8 mi. N. Albury, 250 m. XII-12-1962 300

VICTORIA: E.Base Mt. Buffalo, 250m. XII-12-1962 800

VICTORIA: 9 mi. S. Harrietville, 1150m. XII-13-1962

VICTORIA: 9 mi. S. Harrietville 1150 m. XII-13-62 250

VICTORIA: St. Bernhard, Mt. Hotham 1375 m. XII-13-62 1000

VICTORIA: Mt. Hotham 1700m. XII-13-62 400

VICTORIA: 13 mi. S.E. Mt. Hotham 1250m. XII-13-62 800

VICTORIA: 3 mi. N. Swift's cr. 300m. XII-13-62 1000

VICTORIA: 7 mi. S. Ensay, 200 m. XII-14-1962 150

R. & C. CAVAGNARO

VICTORIA: 4 mi. Nowa Nowa, 200m. XII-14-1962 150

VICTORIA: Lind Nat. Park 150m. XII-14-1962 300

VICTORIA: 7 mi. S.W. Genoa, 100m. XII-15-1962 500

VICTORIA: 3 mi. S.W. Genoa, 75m. XII-15-1962 600

XXXXXXXX

N.S. WALES: 4 mi. N. Eden, 150 m. XII-15-1962 800

N.S. WALES: 2 mi. S.E. Wolumla, 150m. XII-15-1962 100

N.S. WALES: 4 mi. N. Central Tilba 50 m. XII-16-1962 ? 600 2 stops

N.S. WALES: Little Dromedary, Cent. Tilba 150m. XII-17-1962 100

N.S. WALES: 2 mi. W. Kioloa, 90 m. XII-17-1962 1000

N.S. WALES: 3 mi. N. Kioloa, sea level XII-18-1962 100

N.S. WALES: Cambewarra Mt. Lookout 570 m. XII-18-1962 100

N.S. WALES: The Razorback nr. Picton 230 m. XII-19-1962 150

N.S. WALES: Wattamolla Royal Nat. Pk. 30 ft. XII-20-1962 150

N.S. WALES: Royal National Park, 25 m. XII-20-1962 200

N.S. WALES: The Jungle, Mt. Tomah 900m. XII-22-62 150

N.S. WALES: near Mt. Wilson, 900m. XII-22-1962 2000

N.S. WALES: Bell, 1075 m. XII-23-1962 200

Asian Expedition 1961 - 1962 Ross & Cavagnaro

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N.S. WALES: 11 mi. E. Bathurst, 900m. XII-23-1962 150

N.S. WALES: Mt. Wiagoon, 900 m. XII-23-1962 2000

N.S. WALES: Little Hartley, 850 m. XII-24-1962 150

N.S. WALES: LittleHartley, 850m. XII-24-1962

QUEENSLAND: TheBoulders, near Babinda 100m. 10-XI-1962 E. S. Ross & D. Q. Cavagnaro 200

QUEENSLAND: Malanda, 700m. 8-XI-1962
E. S. Ross &
D. Q. Cavagnaro 800

QUEENSLAND: L. Eacham, 700m. 9-XI-62
E. S. Ross &
D. Q. Cavagnaro 600

QUEENSLAND: Townsville, sea level
13-XI-1962
E. S. Ross &
D. Q. Cavagnaro 150

QUEENSLAND: Cannovale, 15-XI-1962
E. S. Ross &
D. Q. Cavagnaro 800

QUEENSLAND: Yatton creek, Bruce Hwy.
200 m. 20-XI-1962
E. S. Ross &
D. Q. Cavagnaro 100

QUEENSLAND: Canoona, 75m. 20-XI-62
E. S. Ross &
D. Q. Cavagnaro 100

N.S. WALES: Cape Byron, 5m. 27-XI-62
E. S. Ross &
D. Q. Cavagnaro 400

N.S. WALES: Mac-Lean, 150m. 28-XI-62
E. S. Ross &
D. Q. Cavagnaro 200

N.S. WALES: Robertson, 760m. 8-XII-62
E. S. Ross &
D. Q. Cavagnaro 800

N.S. WALES: Wagga
200 m. 11-XII-1962
E. S. Ross &
D. Q. Cavagnaro 200

VICTORIA: Mt. Hotham, 1700m.
13-XII-1962
E. S. Ross &
D. Q. Cavagnaro 400

VICTORIA: 7mi. S. Ensay, 200 m.
14-XII-1962
E. S. Ross &
D. Q. Cavagnaro 150

N.S. WALES: Bell, 1075 m. 23-XII-62
E. S. Ross &
D. Q. Cavagnaro 200

VICTORIA: Mt. Hotham
1700m. 13-XII-1962
E. S. Ross &
D. Q. Cavagnaro 400

#388
QUEENSLAND:
Paluma, 2900'
11-XI-1962
E. S. Ross &
D. Q. Cavagnaro 500

W. AUSTRALIA:15mi.
E. Ravensthorpe.
110 m 23-XI-1962
E. S. Ross &
D. Q. Cavagnaro 200

N.S. WALES: 2mi. A
N. Bega. 125 m
16-XII-1962
E. S. Ross &
D. Q. Cavagnaro 100

N.S. WALES:7mi.NW
Yarras-Oxley Hwy.
200m 1-XII-1962
E. S. Ross &
D. Q. Cavagnaro 50

N.S. WALES:
Tathra, 75 ft.
16-XII-1962
E. S. Ross &
D. Q? Cavagnaro 50

N.S. WALES: The
Gib near Bowral
750m 9-XII-1962
E. S. Ross &
D. Q. Cavagnaro 75

N.S. WALES:
Tomerong, 90m
18-XII-1962
E. S. Ross &
D. Q. Cavagnaro 25

VICTORIA:
Near Yackandandah

VICTORIA: Near
Yackandandah.
250m 12-XII-62
E. S. Ross &
D. Q. Cavagnaro 25

QUEENSLAND:
Eungella, 700m.
19-XI-1962
E. S. Ross &
D. Q. Cavagnaro 100

AUSTRALIA N.T.: 30
mi.E. Argadargada,
160 m. 1-XI-1962
E. S. Ross &
D. Q. Cavagnaro 50

AUSTRALIA N.T.:7mi.
S. Adelaide river.
50 m. 25-X-1962
E. S. Ross &
D. Q. Cavagnaro 50

W. AUSTRALIA: 40mi.
N. Meekatharra 450m
8-X-1962
E. S. Ross &
D. Q. Cavagnaro 25

W. AUSTRALIA:
Broome. Sea level.
13-X-1962
E. S. Ross &
D. Q. Cavagnaro 25

All labels ordered from Pontes or Offset - July 1964

Western Australia

✓ Stop 297 W.Australia
3000 Darlington
spec. 450' IX-5-62
✓ (set type also for stop 323)

Stop 298 W.Australia
200 King's Park,
spec. Perth 100ft
IX-5-1962
(set type also for stop 325)

offset Stop 299 W.Australia
700 10 mi.E.Northam
spec. 150m IX-14-62

offset Stop 300 W.Australia
700 5mi.W.Kellerberrin
spec. 325m IX-15-62

offset Stop 301 W.Australia
800 15mi.W.Merredin
spec. 275m IX-15-62

offset Stop 302 W.Australia
1500 30mi E.Merredin
spec. 375m IX-16-62

Stop 303 W.Australia
300 14mi W.Southern
spec. Cross 375m
IX-16-1962

Stop 304 W.Australia
200 10mi E.Southern
spec. Cross 425m
IX-16-62

offset Stop 305 W.Australia
700 30mi E.Southern
spec. Cross 350m
IX-16-1962

Stop 306 W.A ustralia
100 54mi W.Coolgardie
spec. 325m IX-17-62

Stop 307 W.Australia
200 20mi N .Broad
spec. Arrow 325m
IX-17-1962

Stop 308 W.Australia
150 37mi S.Leonora
spec. 350m IX-18-62

offset Stop 309 W.Australia
700 28mi E.Leonora
spec. 350m IX-18-62

Stop 310 W.Australia
150 Morgans,nr.Laverton
spec. 350m IX-19-62

Stop 311 W.Australia
100 Oldfield R.,
spec. nr. Ravensthorpe
30m IX-23-62

Stop 312 W.Australia
200 15mi E.Ravensthorpe
spec. 110m IX-23-62

Stop 313 W.Australia
150 20mi S.Borden
spec. 200m IX-23-62

Stop 314 W.Australia
200 Chester Pass,
spec. Stirling Range
200m IX-24-62

Stop 315 W.Australia
150 Valley of the
spec. Giants 150m
IX-24-1962

Stop 316 W.Australia
50 25mi NW.Walpole
spec.. 100m IX-25-62

Stop 317 W.Australia
150 13mi W.Bridgetown
spec. 320m IX-25-62

Stop 318 W.Australia
300 Alexandra Bridge
spec. 25m IX-26-62

Stop 319 W.Australia
offset 800 Hamelin Bay
spec. 2m IX-26-62

offset Stop 320 W.Australia
800 Cape Naturaliste
spec. 5m IX-27-62

Stop 321 W.Australia
100 7mi NE.Busselton
spec. 50m IX-28-62

Stop 322 W.Australia
75 6mi N.Mandurah
spec. 30m IX-28-62

Stop 323	300	spec.
W.Australia Darlington 450ft IX-30-62		
Stop 324	75	spec.
W.Australia Fremantle 40m X-1-62		
Stop 325	75	spec.
W.Australia King's Park, Perth 100ft X-1-1962		
Stop 326	50	spec.
W.Australia 17mi N.Payne's Find 400m X-3-1962		
Stop 327	100	spec.
W.Australia Mt. Magnet 410m X-4-62		
Stop 328	150	spec.
W.Australia 45mi NW.Cue 440m X-5-62		
Stop 329	50	spec.
W.Australia Mileura 350m X-5-1962		
Stop 330	100	spec.
W.Australia 18mi.NW.Mileura 310m X-6-62		
Stop 331	300	spec.
W.Australia Milly Milly 300m X-6-62		
Stop 332	50	spec.
W.Australia 8mi SE.Belele 400m X-7-62		
Stop 333	30	spec.
W.Australia:86 mi NE.Meekatharra 525m X-8-62		
Stop 334	200	spec.
W.Australia 82mi SW.Mundiwindi 600m X-8-62		
Stop 335	300	spec.
W.Australia Wittenoom Gorge 475m X-9-62		
Stop 336	50	spec.
W.Australia Dales Gorge 625m X-10-62		
Stop 337	250	spec.
W.Australia Yampire Gorge,nr.Wittenoom 625m X-10-62		
Stop 338	50	spec.
W.Australia de Grey,E.Port Hedland 10m X-11-62		
Stop 339	200	spec.
W.Australia Thangoo,nr. Broome 10m X-12-62		
Stop 340	1500	spec.
W.Australia Langi Crossing 10m X-13-62		
Stop 341	150	spec.
W.Australia Derby 5m X-16-1962		
Stop 342	100	spec.
W.Australia Kimberley Dns. 40m X-16-62		
Stop 343	1500	spec.
W.Australia Winjana Gorge 100m X-17-62		
Stop 344	800	spec.
W.Australia Tunnel Ck.,nr. Fairfield 150m X-17-1962		
Stop 345	800	spec.
W.Australia 15mi W.Louisa Dns. 250m X-18-62		
Stop 346	100	spec.
W.Australia Palms Mill,N. Halls Ck. 375m X-19-62		
Stop 347	50	spec.
W.Australia 15mi N.Bow R. 250m X-19-62		
Stop 348	300	spec.
W.Australia 40miSE.Wyndham 50m X-20-62		
Stop 349	150	spec.
W.Australia Wyndham 5m X-20-62		
Stop 350	75	spec.
W.Australia Goose Hill Ck. SE.Wyndham 10m X-21-62		

Northern Territory, Australia

Stop 351 200 spec.	N.T., Australia 27mi E.Newry 50m X-21-62
Stop 352 150 spec.	N.T., Australia Victoria R. Crossing 30m X-22-1962
Stop 353 350 spec.	N.T., Australia 5mi SW.Katherine X-22-62 75m
Stop 354 200 spec.	N.T., Australia Darwin 5m X-24-1962
Stop 355 800 spec.	N.T., Australia Stuart Hwy., Coomalie Ck. 50m X-24-62
Stop 356 1000 spec.	N.T., Australia Edith Falls, nr. Katherine 110m X-25-62
Stop 357 800 spec.	N.T., Australia 10mi S.Dunmara 200m X-26-62
Stop 358 200 spec.	N.T., Australia 23mi N.Renner Springs 200m X-27-1962
Stop 359 50 spec.	N.T., Australia 7mi S.Banka Banka 210m X-27-62
Stop 360 4000 spec.	N.T., Australia Devil's Marbles 350m X-27-62
Stop 361 800 spec.	N.T., Australia 14mi N.Barrow Ck. 350m X-28-62
Stop 362 300 spec.	N.T., Australia 7mi S.Ti-Tree Well 500m X-28-62
Stop 363 1500 spec.	N.T., Australia 11mi N.Alice Springs 625m X-28-62
Stop 364 150 spec.	N.T., Australia Alice Springs 600m X-29-62
Stop 365 1000 spec.	N.T., Australia 11mi NE.Yambah, nr. Alice Springs 625m X-29-62
Stop 366 1000 spec.	N.T., Australia Macdonald Dwns. 400m X-30-62
Stop 367 1000 spec.	N.T., Australia Ooratippra 275m X-31-62
Stop 368 800 spec.	N.T., Australia nr.Austral Dwns. 160m XI-1-62

Queensland, Australia

Stop 369 300 spec.	Queensland Gregory Dwns. 75m XI-2-62
Stop 370 300 spec.	Queensland nr.Brookdale 10m XI-2-62
Stop 371 600 spec.	Queensland 14mi SE.Normanton 40m XI-3-62
Stop 372 150 spec.	Queensland 13mi W.Georgetown 260m XI-4-62
Stop 373 800 spec.	Queensland 24mi SE.Einasleigh 500m XI-4-62
Stop 374 50 spec.	Queensland Lynd 500m XI-5-1962
Stop 375 200 spec.	Queensland Conjuboy 500m XI-5-62
Stop 376 600 spec.	Queensland 40mi SW.Mt. Garnet 750m XI-5-62
Stop 377 100 spec.	Queensland 26mi SW.Mt. Garnet 650m XI-6-1962